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CLINICAL NOTES UPON SPASMODIC TORTICOLIS; WITH SPECIAL REFERENCE TO TREATMENT.

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BY ASA FLANDERS PATTEE, A.M., M.D.

MEMBER MASSACHUSETTS MEDICAL SOCIETY; PRESIDENT BOSTON THERAPEUTICAL SOCIETY; PROFESSOR EMERITUS OF MATERIA MEDICA, COLLEGE OF PHYSICIANS AND SURGEONS, AND CONSULTING PHYSICIAN TO UNION GENERAL HOSPITAL.

BOSTON, MASS.

Torticollis (wryneck) is due to a spasmodic condition of the cervical muscles, chiefly those supplied by the spinal accessory nerves. The name is derived from two Latin words, *tortus*, twisted, and *collum*, neck. The terms *tic rotatoire*, *Nickrampf*, etc., are used as expressive of the spasm, muscles affected, tenacity, etc.

This abnormal contraction of the cervical muscles is directly the result of irritation of the external cervical branch of the spinal accessory nerve, which having two different origins, a spinal and cerebral, has two distinct functions. The spinal or motor branch supplies the motor power to the sterno-cleido-mastoid and trapezius muscles, and communicates with the first, second, third, and fourth cervical nerves, its roots being traced between the anterior and posterior roots of the first five cervical nerves. As we have seen, wryneck proper is an affection of the sterno-cleido-mastoid and trapezius muscles, but in cases of long standing and great severity, especially in bilateral affections. the splenius capitis, scaleni and platysma myoides may become implicated from continuity of nerve fiber, and contiguity of muscle tissue.

This affection presents the objective phenomena peculiar to all spasmodic conditions of the muscles supplied by the peripheral nervous system. The most frequent and simple exhibition of other nervous irritation of the same nature may be seen in the facial spasm of the trigeminus, upper third, in spasmodic closure of the eyelids, with twitching and contortions of the forehead.

To torticollis proper, medical literature has devoted comparatively small space, the sentiment being conveyed that wryneck, being of reflex origin and generally an obscure and complicated one, when it is once well established in the individual, is the condition of a lifetime. Its clinical history is certainly that of permanency.

Wryneck may be divided into three classes, dependent upon the degree of severity, nature of spasm, and muscles involved. The partial or limited contraction of the cervical muscles due to cold, exposure, strain or rheumatism, and which disappears after a period more or less brief, under the administration of heat, liniments, friction, etc., is a condition commonly known as "stiff neck"; a painful state with which all are familiar, most of us having had personal experience, and does not come within the province of torticollis proper; the former being a condition of the muscle substance itself, while the latter is dependent for its abnormal condition upon the nerve.

In this affection we have the two forms of spasms, the tonic, which is a state of permanent rigidity and immobility of the muscles, and the clonic or tetanic spasm, which consists in alternate contraction and relaxation. The movements are varied and accentuated in accordance with the muscles involved. If it is the trapezius, unilaterly, the head is drawn backward against the shoulder of the affected side, the chin is twisted to the opposite direction, and if the spasm assumes the tonic form, the head is permanently fixed, and can hardly be forced into its normal position; nor will it remain so under any restraint the patient may be able to endure. If the splenius be affected we find the head drawn back against that side, and the enlarged muscle may be felt protruding beyond the cervical edge of the trapezius.

While tetanic spasms are due to the irritability of the peripheral nerves, and may attack any one or part of the superficial muscles of the head or face as well, and their duplicity of action leaves no doubt that all spasms of the external superficial muscles are of the same nature, and are directly due to the same cause, this should by no means warrant us in the conclusion that they may all have the same origin, primal or remote; on the contrary, I think, we may properly make the assertion that irritability of the superficial nerves is the result of causes not always easily ascertained; being sometimes very remote, the nervous irritability being a symptom in the strictest sense of the word. Nerve irritation may be at any point of its course, and the spinal accessory being a complex nerve, having its action in the medulla as well as in the spinal cord, renders it a very difficult matter to locate the exact place of irritation; and owing to the complexity of the nerve branches and their anastosmoses with the pneumogastric, we may have a reflex action from gastric disturbances, or by some lesion of the upper cervical vertebræ. In such an event the cause may be sufficiently obvious to enable one to act intelligently in attempting a cure, while in very many other instances we are obliged to grope in the dark. In this, as in all other peripheral neuroses, pathologic proof is absent.

Contraction of any muscle must be recognized as an exhibition of contractile fiber in response to nerve stimulus, and it is only when it ceases to become rhythmic in its action, or refuses to act altogether, that we have what we term a pathologic condition. The only visible result of nerve irritation that we have to go by is change in shape and mobility of muscle as a whole. Wryneck, as with the majority of peripheral nerve affections, is more convincing in its identity than the *raison d'être*.

Case 1.—My first case of torticollis was in 1857, the last year of my student life, and occurred in a woman aged 33. Her trouble came on without any apparent cause; first showing itself in merely a tendency to stiff neck at times and without any appreciable provocation. It had continued for about seven years, increasing in severity. At the time I saw her the neck was drawn around with a combination of tonic and clonic form of spasm, being twisted with a jerk and remaining in the tonic condition for a day or two, never assuming the normal state, but would be working back and forth. Her general health was fair; objective symptoms nothing to require attention with the exception of a large ulcer inside the left leg. This ulcer was not of the varicose form, but was what is termed by the laity a "fever sore"; it was two inches by two and one-half, and had been in existence for three years; a non-irritable, chronic ulcer. There were no varicose veins, no history of syphilis, no disease of the periosteum. The best of surgical and medical skill had been employed. As an incentive for me to do my best I was told that if I cured Mrs. B. I should have my room rent free for the next six months.

Without regard to etiology or pathology I began the following treatment: A poultice of pulverized ginger, mustard, capsicum, cloves and cinnamon, mixed with cold water and applied to the spine twice daily, from the first cervical down six inches, for one hour at a time. This was for the purpose of promoting counter-irritation, and also by the absorption of the oils these ingredients contained, to promote stimulation of the deeper nerves, carrying it by reflex action back to the nerve roots.

For internal medication I gave the following:

℞. Pulv. capsici,
" myrrhæ . . . . . ãã 18 (gr. iij)
" cinnamomi . . . . . .
" asafetidæ . . . . . ãã 2.00 (grs. xxx)
" sapo. . . . . .

Mix. Divide into thirty pills. Take ten pills after every meal.

This dose seems almost cruel as we prescribe to-day, but we must remember that this was an incident of thirty-nine years ago, a period very different from the present time of concentrated medicines; but a period too, which had remedies quite as efficient in their action as at the present time of artistic preparations. I dressed the ulcer with an ointment made up of lard and powdered cinnamon, of each half a pound, with sufficient quantity of whale oil to make it of proper consistency. This was applid to the ulcer twice daily. This treatment was kept up for months without change, and the result was a perfect and permanent cure, both of the torticollis and the chronic ulcer of the leg.

While the origin of torticollis may be sometimes as apparent to the physician as the door-plate on his own door, yet I intend to show in the following cases that it may be so swaddled about by the environments of disease obscurely located, that treating for an ordinary cause may result in ignominious failure, as shown in the following:

Case 2.—An American woman, aged 35; mother of three healthy children, had been troubled with spasmodic torticollis for three years, or since the birth of her last child. Reckoning from that period as the beginning of her trouble, one would be very liable to attribute the cause to some lesion, more or less important, of the generative organs. Such had been her experience with those whom she had consulted. And her symptoms were typical of such a trouble, only rather more exaggerated than ordinarily met with. Her head would give a sudden and emphatic jerk to the right, then turn as quickly toward the left, where it would remain a minute, then as quickly be jerked back into the normal position. Here it would remain for about ten minutes, generally, though sometimes it would rotate back in a minute or two, and go over the same routine again; keeping up a constant succession of these motions. She was compelled to wear a leather collar buckled tightly around the neck, embracing the face up to the ears, and fastened with a strap under her arms to keep her head in position. But even with this appliance the muscles were in a state of clonic spasm most of the time, unless under the influence of a powerful opiate, which she was compelled to take at night in order to obtain any rest at all. Her treatment had been varied, prompted by all sorts of theories as to the origin of the trouble, but the benefit had been slight, and only temporary at the most. As this period antedated the day of hysterectomy, and ovariotomy was almost unknown, her womb and ovaries were not removed. No definite cause had been assigned. I had the advantages accruing from the experiments of those who had attempted a cure in her case; and it certainly abridged whatever experimenting I might otherwise have done. She had her own teeth, but upon examination it was shown that although few were missing, nearly every one was more or less in a state of decay; still, as they had never troubled her to any great extent it was not surprising that as a cause of her trouble they had been overlooked. Examination then determined me to act upon the decidedly strong suggestion which their appearance seemed to offer. I extracted all of her teeth, gave a mouth-wash of a 1 per cent. solution of potassæ chlorate, and internally, .07 (1 grain) of sulphate of zinc in two ounces of water, after every meal. In less than one week, or as soon as the soreness had subsided, a great improvement became apparent. She continued the treatment for three weeks, at which time the gums had completely healed; the clonic spasms had nearly disappeared, and in three months from the time her teeth were removed she was perfectly well, and there was no relapse. There is no question as to the cause being anything else than reflex irritation from the decayed teeth.

Case 3.—Mrs. S., aged 25, had spasmodic torticollis dating from birth of child, six years previous. She had been under treatment of specialists at different times for months together. The patient seemed to be well nourished, and all the organic functions normal. The bowels were regular, no indigestion, no headache, no spinal irritation, no laceration of uterus or perineum, and appetite good. I gave a pill composed of zinc sulphate .07 (1 grain), extract of valerian .12 (2 grains). One to be taken after every meal. A poultice of mustard, ginger, cayenne pepper, cinnamon and cloves was applied to all of the back, behind the ears, over the chest and throat the greater part of the day; keeping it on one spot sufficiently long to irritate the part, then removing it to another, the object being to keep every inch of the skin in a constant state of irritation, from the first dorsal vertebra upward and the same region in front. The poultice was mixed with cold water. Improvement commenced after the treatment had been in operation for two weeks, and at the end of four months the patient was well. There was no assignable cause for this case, and I would not have been surprised to see a relapse, as a result of cold or exposure; but the cure remained complete.

Case 4.—At the risk of repetition I now present another case to further illustrate what decayed and decaying teeth will do for a person of nervous temperament (or any other temperament, as for that); as such apparently simple causes are generally overlooked; and, again, to show that it is not always necessary that the process of decay should have advanced to any very perceptible degree in order to produce the mischief. This was a case of trigeminal neuralgia of three years' standing, in a woman of 28, and had resisted every means employed by competent physicians. The teeth were apparently all sound, and she had her full complement; but they were quite crowded, owing to size. From some seemingly trivial indications, but which from previous experience I considered to be fraught with meaning, I ordered their extraction. The mouth was washed with a 1 per cent. solution of potassæ chlorate every two hours. The neuralgic condition began at once to disappear, and in three weeks she was well. No relapse. This shows what may be brought by sound teeth when they press upon the terminal nerves.

Case 5.—Another case in the same category will, I trust, be sufficient for my purpose. This was a case of facial paralysis with partial paralysis of the left arm, cured by extraction of all the teeth in both upper and lower jaw. They were nearly all carious. The paralysis was caused by reflex irritation from the carious teeth.

Case 6.—Mr. W. S., aged 25; a drummer for a silverware manufactory. Family history good; no symptoms of gout, rheumatism, or tuberculosis on either side of the house. He had never had any illnes, and habbits were good; organic functions all perfect. After riding several hours on a hot, dusty day, and sneezing a great deal from irritation caused by the dust on the mucous membrane of the nose, he began having slight contraction of the scaleni muscles. He paid little attention to it for several months, when it became very annoying; he then applied to a physician for relief. He was given some sort of stimulating liniment, and anti-rheumatic remedies; these he used for several weeks, but without any appreciable benefit. He then took a two months' course of massage. After this he tried faradic, galvanic, and static electricity for several weeks, but the spasms still continued unabated. When I first saw him he had been experimenting for over a year. It

seemed that as the various new-fangled fads etc., had all been tried; there was little left to be employed but good judgment and common sense. The only treatment I gave—as his general health seemed to be perfect—was a hot shower bath night and morning, fifteen minutes at a time on the neck and shoulders. This treatment brought about the most brilliant results, and at the end of six weeks he was perfectly free from trouble, and there has been no relapse.

Case 7.—Mr. J. L. W., aged 38, a banker, had been ill with spasmodic torticollis for two years. He had been under numerous forms of treatment, and particularly the celebrated mud baths. This was quite a unique case in one respect, viz.: A part of the time the trouble would be confined to one side exclusively for two and three weeks, when it would turn to the other side for the same period, leaving the previously affected side apparently as well as ever it was.

I began treatment by giving hypodermically one drop of the following solution:

℞. Aurii et sodii chloridi	1 gr.	07
Sodii arsenias	1 gr.	07
Sodii bromidi	3 grs.	19
Aquæ dest.	1 oz.	31 00

Mix.

Injecting five drops of this into the belly of the muscles twice a day in rotation; going over the same muscle on each side, beginning, for instance, at the origin of the muscle and gradually going over its whole length, then taking up another in the same way. The strictest antiseptic precaution was observed. He had considerable brachial neuralgia; otherwise was free from pain. No inflammation or abscess was ever produced by these injections, and but slight pain. This treatment was continued with great regularity for five weeks; the improvement was gradual, but even and permanent, and resulted in a complete cure, without any recurrence at the end of fifteen months.

Case 8.—J. B., a boy aged 9 years, was playing "leap frog" when by accident he was kicked in the neck; but from all appearance he was not particularly injured, and made no complaint until about two weeks afterward, when his head began to twitch backward, yet so slightly that it was hardly noticeable; but in the course of several weeks it became a continual cause of complaint. He was under treatment for six months with various mixtures of liniments, ointments, oils, plasters, electricity, etc., previous to my seeing him; but they had produced no perceptible benefit. Stomach and bowels in good condition, urine normal. I applied the following ointment to his neck:

℞. Aurii et sodii chloridi	5 grs.	32
Ammonii hydrochloras	10 grs.	64
Aquæ, well rubbed in	1 drm.	4 00
Adipis benzoas.	1 oz.	31 00

Mix, and apply about ten grains three times daily.

℞. Ammonii hydrochloras . . . . . grs. v .32

To be taken every three hours in a wineglass of water.

This treatment was continued for six weeks with marked improvement. Then ammonia hypophosphite was substituted for the hydrochlorate, in three grain doses for two weeks. Considering the severity of the case his recovery was unusually expeditious, a cure being affected in six weeks.

Case 9.—H. M., a man of 76 years. This man had been employed in a granary for ten years; previous to that he had been in a brewery, and I think there was reason for supposing his blood had become contaminated by micrococci from diseased grain. His face was bloated, and he was always more or less asthmatic. Aside from this, there was a red blotch over his hands and arms. He complained of constant pain in the region of neck and shoulders; the brachial region was the nervous part affected. Soon after first seeing him he was exposed to a severe March storm, and aside from the wetting he was chilled. Driving all day had strained this part of the muscular system, and when I saw him that night I found a condition of acute muscular rheumatism, as one would naturally expect. Proper treatment removed the acute symptoms, but in their place was established, right before my eyes, as it were, a decided case of bilateral torticollis, implicating the whole brachial region (as had the previous attack of rheumatism, which had been removed apparently to give place to this condition). His sufferings were intense; not for one moment during the twenty-four hours was he permitted to rest, save when under the temporary influence of powerful anodynes. In addition to this a persistent cough set in; his breathing became very labored, showing, to my mind, a complication of the phrenic nerve, to which might be traced the spasmodic condition of the cervical plexus. The treatment was the following:

℞. Fl. ext. cimicifugæ	
Tr. gelsemii	
Tr. guaiaci	āā gtt. x .65

Mix.

The above amount to be given every three hours in a wineglass of milk. Hypodermic injections of hot water, to which .65 (grains x) of salt were added, were made every day into the clavicular origin of the sterno-cleido-mastoid muscles of both sides. This course of treatment was continued every day for two weeks, with marked improvement. After that time the injections were discontinued, but the internal treatment was kept up for three months, and at the end of that time there was no further medicine required for he was perfectly well.

Case 10.—Thomas W., a sober, working man of 45, was suddenly leveled to the ground and rendered unconscious by some means then unknown to him, one night in December, 1894. (It was afterward shown that he was struck by a sandbag.) Consciousness returned after about forty-eight hours, but with it the inability to move his head. Constant pain was felt in the occiput and down the back and sides of the neck, extending by flashes down his arms to the elbows, with numbess of the finger-ends. Upon being lifted in bed he was seized with spasms which twisted his head from one side to the other in quick rotation, then backward over the scapula, with such force that it seemed his neck would be broken. This condition lasted for twenty-four hours, when the patient became unconscious from exhaustion. There must have been some irritating lesion of the spinal cord, extending to the cortical substance of the brain, and the question might be raised whether this was a case of torticollis proper, or of spasms caused by injury to the brain. The pulse and temperature were normal throughout. I gave 4.00 (1 dram) of liquor ammonii acetatis with .65 (10 drops) of tinct. gelsemium every three hours. Hot compresses to the occipital and cervical regions were constantly applied. In about five hours the spasms were very decidedly abated, and in the course of a couple of weeks the pains had all ceased; but there was still to be noticed a tendency to spasmodic contraction of the muscles. I ordered tincture of lobelia be rubbed on the parts, and had him take .32 (5 drops) of the same every three hours. This seemed to act so nicely that in the course of a week the spasmodic tendency had disappeared; but I continued the treatment one week longer, so as to ensure a perfect recovery.

In conclusion, I will copy the following case from one reported in my paper, on "Nerve Vibration and Excitation," as read in the Section on Practical Medicine, Materia Medica and Therapeutics, at the thirty-sixth annual meeting of the AMERICAN MEDICAL ASSOCIATION, held in New Orleans, La., April 29, 1885:

A married woman, aged 29; of extremely nervous temperament, and suffering from mental trouble brought on by death of a child. Electricity had been applied by a competent person, but this seemed only to aggravate the case. The muscles of the right side were affected. This condition had existed for several months. Not only the sterno-mastoid, but the deeper groups of muscles were involved. As the motor filaments of the pharyngeal branches of the pneumogastric are derived from the spinal accessory, I directed my treatment to the base of the occipital bone, across to the upper part of the sterno-mastoid, following the course of the nerve as closely as possible.

The treatments were daily, and of fifteen minutes duration. The percuteur was firmly held against the surface, though not pressed down, so that the whole force of the blow might be obtained. Eight cells of the battery were employed, and I used the olive-pointed hammer, tracing the course of the nerve upward and downward, and over the clavicular portion of the trapezius muscle. At the end of the first sitting the muscles of the neck were a trifle relaxed, the patient being able to turn her head slightly; but the next day found the old condition almost reinstated. However on going over the same treatment I found the improvement still more marked than that of the day previous, and, to cut a long story short, the condition steadily improved under every treatment, the deterioration between times being less noticeable. At the end of three weeks the patient presented no signs

of wryneck, and the corresponding muscles of the other side had regained their normal condition. varied the treatment somewhat, as the case progressed, by passing the hammer down either side of the spinous processes, pausing a moment at each. The entire cerebro spinal nervous system seemed to respond favorably to this treatment, and the result was complete restoration to health, and no inclination to return of the torticollis, so far.

This patient had already gone through the usual list of nerve remedies. I ordered that all accessory treatment should be stopped, save good nourishing food, pleasant surroundings, and all other necessary and proper hygienic conditions.

While it is patent to the practical physician that in the treatment of disease in general there can be no prearranged method which shall be applied with positive certainty to all cases, the routine of treatment fitting the condition as surely as a certain size of glove will fit a correspondingly sized hand, this uncertainty is still yet more apparent when we have to deal with diseases of the peripheral nervous system, and is most plainly illustrated in wryneck. I have seen many cases in which treatment has been a complete failure; cases which had been submitted to braces and various complicated devices; but they were used without accomplishing the desired result. The surgeon's knife has also been powerless to help. Nor am I alone in my experience and consequent conclusions. Physicians of wide repute and acknowledged skill corroborate my opinion. Dr. A. McLane Hamilton says on the subject: Braces and apparatus are often worse than useless, increasing not only the patient's discomfort, but aggravating the malady. This opinion is also expressed by Dr. James Ross, Dr. M. Rosenthal, Dr. Gower, and many other acknowledged authorities. Professor Erb, in speaking of the various devices, and surgical operations says: The division of the nerve is an objectionable proceeding, partly on account of the resulting paralysis, and partly because it has been tried and has failed in effecting a cure, and has increased the spasms with unabated violence.

Dr. C. M. Barr says: Instruments intended to forcibly check the spasms can not be worn any length of time. . . they do no good. I have in my own practice seen ten cases that have had various operations performed on the nerves and muscles, and the result has been the reverse of successful, in fact, disastrous.

I have collected statistics from many sources, amounting to between four hundred and five hundred cases in which surgical operations in one way and another have been performed in torticollis, without deriving the slightest benefit therefrom; in fact the conditions were worse than before the operation.

THE FREQUENT DEPENDENCE OF INSOMNIA, MENTAL DEPRESSION AND OTHER NEURASTHENIC SYMPTOMS UPON DISEASE OF THE GASTRO-INTESTINAL TRACT.

Read in the Section on Practice of Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY BOARDMAN REED, M.D.

ATLANTIC CITY, N. J.

The group of nerve derangements formerly classed under the terms nervous exhaustion and nervous prostration, and of late more appropriately labeled neurasthenia, is after all a rather vague and indeterminate entity. It has not yet any recognized pathology, and even its etiology is still in dispute. There are not wanting authors, now, who insist that neurasthenia is only another name for toxemia, and that the ptomaines and leucomaines absorbed from an infected or diseased alimentary canal are responsible for all the symptoms which it has so long been the fashion to ascribe to mental overstrain, sexual excesses or other prodigal waste of the vital and nerve forces.

Still others believe that too much food and too little exercise—too much alimentation and not enough oxygenation—cause an overcharging of the blood with uric acid, as well as other products of suboxidation, and that hence arise all or most of these nerve ills which, as is well known, afflict chiefly persons who live a luxurious, or at least a sedentary life, being relatively uncommon among those who use their muscles largely, while they eat and drink abstemiously. Haig, the great exponent of the uric acid theory, believes that butchers' meat, especially when taken in excess, is the most active cause, and he brings forward a very strong array of evidence in proof of his views; but it is probable that he goes too far.

My own belief is, that while any of the various influences just recited may, even singly and alone, produce, under certain conditions, some of the forms or manifestations of neurasthenia, especially in persons who have inherited a tendency thereto, a number of them have usually combined to develop the more aggravated types. Granted, that there are always predisposing conditions, it must now be admitted that the rôle of the indigestions and other morbid states of the alimentary tract, is most important in the causation of these nerve ails. It is an every day observation of physicians who have much to do with nervous patients that their well-being and comfort depend largely upon the condition of their stomachs and bowels.

To give this discussion a more definite and practical character, it will be best to consider here a few of the more marked and familiar symptoms of neurasthenia, rather than that elusive entity as a whole. Let us take, for instance, the mental depression, nervous erethism and insomnia, some one or all of which may always be observed in the severer cases. In the hundreds of neurasthenics who have annually come under my care in that Mecca of American invalids, Atlantic City, the symptoms just named have usually been the most pronounced and troublesome.

They may arise as a result of any of the graver forms of gastro-intestinal disease, such as cancer, gastric ulcer, chronic gastritis and dilatation of the stomach, through the lowered nutrition which such affections induce. Whether this be brought about directly as a result of a starving of the nerve centers, the blood which nourishes them having itself become impoverished, or whether the poisoning primarily of the blood and secondarily of all the tissues, by products of the fermentation, putrefaction and sub-oxidation which such diseases of the alimentary canal greatly promote, is a question which need not be entered upon here. My object in this paper is the more practical one of emphasizing the importance of the part played by stomach and intestinal diseases in a large and most important class of nervous affections.

Cancer and ulcer are apt to be recognized and to receive special attention at a comparatively early stage

of their progress, on account of the pain and frequent vomiting which they usually evoke. Gastric catarrh, however, is unfortunately often allowed to proceed to a late and serious stage before it is diagnosticated and the proper treatment begun; while atony and dilatation of the stomach, when only moderate in degree, are very generally overlooked, except by the specialist. This is much to be regretted, since, while generally curable, or at least capable of great amelioration, in the beginning, they are very intractable, as well as sadly afflicting, in their more advanced stages. Moreover, there is no reason now, why every practitioner who is fairly adept in the art of percussion, should not be able to recognize them even without the use of a tube or other intra-gastric instrumentation. A method of establishing the diagnosis in such cases, as well as in the various forms and degrees of gastroptosis, or stomach displacement, by external examination, has been described by me in a previous contribution.[2]

Constipation and its immediate sequelæ have disastrous and far reaching effects in causing disturbances of the nervous system, among which the neurasthenic symptoms now under consideration are prominent. This would of itself furnish abundant material for a separate paper, and can only be mentioned here in passing, though it will be referred to again under the head of acid dyspepsia, which is one of the conditions upon which it most frequently depends.

The so-called gastric neuroses, that is, on the one hand, a diminished secretion of hydrochloric acid with or without a decrease of the other constituents of the normal gastric juice, and on the other hand, an excessive secretion of hydrochloric acid, along with usually a hypersecretion of the digestive ferments as well, are also of importance in this connection.

The former condition is admittedly very infrequent in comparison with the latter. Diminished or absent secretion of the gastric juice, especially of its acid constituent, is constantly found as a result of advanced gastric catarrh. It means, then, an organic and virtually incurable disease, though by the proper administration of the acid and pepsin artificially, much can be done in such cases toward compensating for the defect. It is possible that in many cases in which the absence of hydrochloric acid has been observed for short intervals, alternating with periods of excess of the same acid, such absence has been the result of the prolonged and free administration of alkalies, either in substance or in the form of the Carlsbad and other mineral waters which are very rich in the soda salts. These salts, too long given, are known to have such an effect.

It so happens that in a large number of chemic examinations of the stomach contents, I have rarely ever found an absence of free hydrochloric acid, without either a coincident gastric catarrh or cancer. Two notable exceptions were one case of sea-sickness and one of brain tumor.

It was an early observation of mine that neurasthenic patients, while they generally craved nervines and narcotics, and had sometimes taken too much of them before going to the seashore, rarely made any permanent favorable progress as a result of the administration of such drugs, and that, on the other hand, they often gained remarkably in nerve tone and in the ability to obtain sound and refreshing sleep after having been put on a restricted diet together with calomel, even in the smallest doses, to correct a furred tongue and remove the congeries of symptoms popularly known as biliousness. Hydrochloric acid given with the same purpose, often brought about the same wonderful improvement in their sleep and mental condition. The appetite and digestion were helped at the same time, and following up the treatment with such nerve tonics as iron, strychnin and the phosphates or hypophosphites, often assisted in making very gratifying cures.

A series of such favorable cases, in which insomnia and the associated nervous phenomena were very promptly relieved by the administration of hydrochloric acid, awakened hopes that an unfailing remedy had been discovered for all that class of ailments. Then came a number of cases in which hydrochloric acid not only gave no relief whatever, but even seemed to aggravate the trouble. Not being familiar at that time with the vagaries of the gastric secretion and their intimate connection with deranged intestinal peristalsis, autointoxication, uricacidemia and other abnormalities of digestion and assimilation, I was wholly at a loss to explain these diverse effects of the same drug in the same doses, upon patients suffering from apparently identical symptoms.

But we all know now that very often there is an excess of hydrochloric acid in the gastric juice. This is true not only in many cases of manifest and clearly recognized disturbance of stomach function, especially those in which pains or marked discomfort after eating are the chief symptoms, along with constipation as a rule, but also in the cases of nervous patients who claim to have good digestion and insist that they can eat anything. The latter may have large appetites, often amounting to bulimia, and though they suffer from intestinal flatulence, emphatically object to being considered dyspeptics.

The German writers call this form of disordered secretion hyperacidity, and the French term it hyperchlorhydria. English authors have described it under the name of acid dyspepsia. The administration of hydrochloric acid in the usual manner after meals in this affection, can scarcely fail to increase still further the amount of acid in the already too acid chyme about passing on into the bowel, where it is destined to work all manner of mischief, inhibiting or greatly diminishing the activity of the pancreatic and intestinal ferments, and probably provoking such a spastic condition of the peristaltic apparatus as to bring about the constipation which is so constant an accompaniment of hyperacidity. The interference with intestinal digestion favors the development of the fermentation and putrefaction which are the plague of patients thus afflicted. The poisonous products thus engendered not only absorb directly into the blood, causing anemia, with disastrous effects as well to the nerve centers and many other structures, but also the gaseous portion of them over-distends the intestines, exciting colics, or at least sleep-disturbing pains, besides, when allowed to go on long enough, so paralyzing the muscular coats of the bowel and permanently dilating the tube as to render the constipation very difficult if not impossible to cure.

My note books show that a very large preponderance of the nervous patients who have come under my care and whose cases seemed serious enough to warrant the analysis of their stomach contents, after the usual Ewald test breakfast, were found to have an excess of hydrochloric acid.

By its great relative frequency, its insidiousness

and often unsuspected beginnings, and its serious results when not actively combatted, hyperacidity is probably the cause, directly and indirectly, of more nervous derangements and ill health generally, than any other one disease of the gastro-intestinal tract. Hence this form of indigestion merits here a somewhat more detailed consideration.

When the gastric juice contains an excess of hydrochloric acid, the first symptom ordinarily observed, apart from gastric pain or discomfort, which may or may not be present, is usually constipation. My notes show that this is almost constant and proportioned in degree to the amount of the hyperacidity, though very exceptionally I have observed cases in which the bowel movements were regular or even excessive. In seeking for a rational explanation of the manner in which constipation is caused in these cases, I have been led by a large number of observed facts to infer that in the earlier stages of the affection the superacid stomach contents, as already intimated, often excite contractions of an irregular or spastic character in the muscular coats of the bowels, thus interfering with the normal peristaltic action. By careful palpation one can often feel contracted portions of intestine as hard cords under the fingers. Experienced masseurs sometimes report the same observation to me in these cases of hyperacidity. Such patients usually do not respond well to the ordinary purgatives, and even the milder laxatives, unless combined with alkalies, as in the popular aperient waters, are apt to produce unsatisfactory results with much griping pain. Rough massage with the usual exciting accompaniments of slapping, percussion, etc., often fails to effect any good results, while neutralizing the acidity by substantial doses of alkalies given one or two hours after meals, with the help of mild galvanic treatment and gentle rubbing and kneading of the abdomen, often overcomes the constipation without the administration of any laxative medicines whatever.

Left to itself, or wrongly treated, this constipation of hyperacidity causes intestinal flatulency, retention and absorption of the various products of fermentation and putrefaction, with a resulting endless chain of nervous derangements and other morbid effects. The autointoxication thus originated may provoke not only insomnia, mental depression and many other functional disturbances, but also, according to Bouchard[3] and his followers, various other diseases as well.

Pressure of the fecal masses upon the lower abdominal and pelvic nerve plexuses, as well as, in the case of women, upon the ovaries, probably effects a more direct injury in many cases, and is at least the cause of numerous reflex symptoms. Hyperacidity is the nearly constant accompaniment of gastric ulcer, and is doubtless a factor in its causation. It also tends to develop in time, if severe and uncontrolled by treatment, the serious condition known as Reichmann's disease, or a continuous hypersecretion of the gastric juice, as well as ultimately the still worse state of marked dilatation of the stomach.

Recent experiments by Turck,[4] of Chicago, demonstrate that in at least that form of acute gastritis which can be set up artificially in animals, there is constantly found an excess of hydrochloric acid during the earlier stages of the morbid process. Boas[5] and some of the other recent German authors now admit the existence of an acid gastritis which they look upon as a separate and exceptional form of inflammation of the stomach; but it is a question whether, in view of Turck's observations and the analogies afforded by catarrhal processes in other organs, this form does not constantly precede the more familiar atrophic type of chronic gastritis.

It might be inferred with considerable plausibility that hyperchlorhydria is only the congestive stage of acid gastritis and the earliest stage of chronic gastritis glandularis; and possibly this may be true. But, unquestionably, such a hyperemic condition of the gastric mucous membrane with excessive secretion, may exist temporarily as a result of the generally hyperesthetic state of the nerve centers and many of the nerve endings so frequently observed in the worst forms of neurasthenia.

Hyperacidity of the gastric juice merits especial consideration in this connection for the further reason that some of the methods of treatment which are most in vogue in cases of insomnia, mental depression, etc., tend directly to increase the secretion of the hydrochloric acid and thus in the end to aggravate the malady. Thus, the tonics and stimulants which are almost universally prescribed as a matter of routine in neurasthenia, are probably all or nearly all excitants of gastric secretion, and therefore when the nervous affection is either dependent upon, or complicated with, hyperacidity, the result must often be disappointing. Mathieu[6] asserts very positively that alcoholic liquors, spices and condiments of all kinds, and such drugs as the iodids, bromids, ferruginous salts and the mineral and organic acids, all excite an increased secretion of hydrochloric acid. It is more than probable that strychnin, phosphorus, arsenic and the other metals in their usual therapeutic doses, have the same effect. In regard to several of these, I have myself noted in numerous cases an increase of hyperacidity while they were being administered.

For the determination of the amount of hydrochloric acid in the gastric juice there has not yet been discovered any reliable method except the quantitative chemic analysis of a definite number of cubic centimeters of a sample of the stomach contents obtained at a certain interval after a test meal, usually one hour after the Ewald test breakfast, which consists of two ounces of bread and a half pint of either water or weak tea. In Germany especially, many elaborate experiments have been made with the view of finding some fixed relation between the acidity of the urine at different times of the day and the proportion of hydrochloric acid in the gastric juice, but so far with only partial success. Both Boas[7] and Riegel[8] quote the experiments of Quincke, Sticker and Hüber in this direction, but do not consider the claim established that the relation is sufficiently constant to be a safe guide. I have tested the matter in a number of cases and found the results too varying to be reliable.

Chemic and microscopic examinations of the stomach contents need to be made also at times during the treatment of hyperchlorhydria to note the results. It is especially important during the administration of large doses of alkalies (which have proved one of the most effective means of relieving as well as curing this affection), to watch the results very carefully. It is well also to test the urine frequently to see that it does not become entirely alkalin, and even to make an occasional microscopic examination of the blood, since a too prolonged or vigorous pushing of even the milder alkalin salts is capable of doing harm.

But the treatment of either neurasthenia or any of

the digestive disorders with which it is so generally associated, forms no part of the scope of this paper. My purpose will have been fully accomplished if the suggestions already offered shall lead to a fuller recognition, in our every day work, of the intimate connection existing between the functional nervous affections and diseased conditions in the alimentary canal, as well as show the great practical importance of a more exact study of the latter by the recent scientific methods.

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THE RELATION OF ASCITES TO DISEASES OF THE KIDNEYS, AND PARACENTESIS ABDOMINALIS AS A REMEDY.

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BY W. F. McNUTT, M.D.

SAN FRANCISCO, CAL.

The accumulation of fluid in the abdominal cavity with or without dropsy was recognized by the earliest medical writers. Hippocrates was, from his many references to the subject, evidently familiar with dropsy and the accumulation of fluid into the serous sacs. Erasistratus's master, Chrysippus, must have been a contemporary of Hippocrates. According to Galen this famous physician, Erasistratus wrote a work on dropsy and taught that all varieties depended upon obstruction of the liver. Galen himself taught that diseases of other organs might also be responsible for dropsical effusions, and that they not infrequently had their origin in the morbid state of the blood. Asclepiades, who seems to have been a voluminous writer, according to what can be gathered of his views from Celsus and Galen, divided all dropsies into acute and chronic, not designating the particular viscera whose disease caused the dropsy. Probably Avicenna in his "Canon Medicinæ," is the first to include disease of the kidneys as a cause of dropsy. It is questionable whether he (from postmortem examinations) had a definite knowledge of the connection between pathologic conditions of the kidneys and dropsy. He makes the statement, however, that the kidneys from the induration of their structure fail to separate urine, hence dropsy. We have no knowledge as to what means he had for diagnosing diseases of the kidneys. While many writers since the days of Willis have been particularly interested in dropsy and effusions, it is quite safe to say that before Dr. Bright's time the relation between diseases of the kidneys and dropsy with effusion into the serous cavities was very vague. Scattered through the liferature of dropsy one finds a reference here and there to disease of the kidneys as a cause, but from the vague language of the writer it is easy to see he had no definite knowledge of the relations. Hippocrates says: "The most of them [dropsies] commence from the flanks and loins, but some from the liver; in those which derive their origin from the flanks and loins the feet swell, protracted diarrheas supervene, which neither remove the pains in the flanks and loins nor soften the belly." Adams thinks: "Hippocrates refers one species of dropsy to disease of the parts situated in the loins, by which Galen and Stephanus agree that he means the jejunum, mesaraic veins and kidneys." Ægeneta says: "For the most part it [ascites] arises from hardness and scirrhus about the spleen and liver and from chronic defluxions about the intestines." Aretæus says: "Dropsy is sometimes occasioned suddenly by a copious cold draught, when on account of thirst, much cold water is swallowed and the fluid is transferred to the peritoneum; by which means the innate heat in the cavities is congealed, and then the dropsies which formerly were converted into air and dissipated, flow into the cavities." Aretæus no doubt diagnosed ovarian tumors as ascities. "This other form of dropsy is known. Small and numerous bladders, full of fluid, are contained in the place where ascites is found; but they also float in a copious fluid, of which this is a proof; for if you perforate the abdomen so as to evacuate the fluid, after a small discharge of the fluid, a bladder within will block up the passage; but if you push the instrument farther in, the discharge will be renewed. This species then is not of a mild character, for there is no ready passage by which the bladders might escape. It is said, however, that in certain cases such bladders have come out by the bowels. I have never seen such a case, and therefore write nothing of them; for I am unable to tell whether the discharge be from the colon or the stomach." To Bright, more than to any other writer, are we indebted for the establishment of the relations between the diseases of the kidneys and dropsy. He described the structural lesions of the kidneys that give albuminous urine. Every writer and practitioner now recognizes the important part that diseases of the kidneys play in dropsy and the frequency of effusion into the serous sacs in cases of renal anasarca. No writer, however, seems to have given the proportional frequency of ascites, hydropericardium and hydrothorax in renal dropsy. No one is surprised to find ascites developing in hepatic or right heart obstructions or in peritonitis or cancer of any abdominal organ for instance, but in the absence of any of these conditions, why should ascites occur in renal lesions more frequently than does hydrothorax or hydropericardium; yet the daily experience of every practioner finds it to be the fact. In renal diseases, barring the inflammations, pleuritis, pericarditis, arachnitis and peritonitis, we find effusions into the abdominal cavities much more often than into any of the other cavities; to be sure, in some cases of ascites with Bright's there may also be an indurated or nutmeg liver or a chronic peritonitis which a postmortem would be necessary to reveal. The heart in the following case is normal and there is not an indication of disturbance of the liver.

The patient, a man of 58, blonde, family history good, rather muscular, temperate habits, but has had a life of exposure, first in the United States army as a young man during the late unpleasant episode in our history, and since as a mining prospector and owner. By the aid of his wife and a friend he was brought to this city, thinking, as he expressed it, there might be another straw to grasp at. When I saw him last, September 30, there was an extreme anasarca, great abdominal distention from ascitic

fluid, the most distressing dyspnea, respiration fifty-five, pulse feeble and very rapid, face cyanosed, headache and vomiting. Urine, twenty-five ounces per day, light colored, 1012 specific gravity and coagulated almost solid in test tube; epithelial and granular casts; he weighed 185 pounds on the hotel scales. It seemed scarcely possible that the man could live many days. I returned to my office and got a trocar, put him on the bed on his side, well braced up, as he could not lie down, put a Kelly pad under him and tapped him. The trocar remained in for several hours and the fluid continued to run from the opening for three days, when it ceased, by which time the anasarca had disappeared and the patient weighed 130 pounds, having lost fifty-five pounds in the three and one-half days. The abdomen soon commenced refilling, and on October 15 he was again tapped, draining off the fluid, eight quarts. It promptly collected again, and on the 20th we obtained six and one-half quarts. From this time he began to improve in strength and the urine increased to forty ounces, and for a few days to seventy. The fluid was again collecting, but more slowly this time, November 19 we again tapped him, this time getting eight and one-half quarts; by the 27th he was again quite distended and was again tapped; the canula was left in thirty-six hours, during which time we collected thirteen quarts of ascitic fluid. December 10, I tapped him again, not leaving the canula in this time, and taking off six and one-half quarts; eight days afterward, viz.: December 8 it was necessary to tap him again; the canula was left in forty-eight hours and fluid escaped from the opening twenty-four hours more, most of it was conducted into a bucket by the Kelly pad; we collected eighteen quarts and the bed clothes were several times saturated. It is safe to say that in those three days twenty quarts of fluid escaped from the abdominal cavity. December 22 we drew off eight quarts. By January 8 it was again necessary to tap him; left the trocar in four days and collected thirteen quarts, and on the 28th we got four quarts; February 10 I drew off four quarts. I have not been able to find an explanation in any of our pathologies of this morbid propensity of the peritoneum in Bright's. In this individual case the peritoneum poured out 506 fluid ounces from December 1 to December 8, eight days; over two and one-half ounces per hour; and no discoverable obstruction to the portal circulation, and no effusion into any of the other serous cavities. It scarcely seems possible that we could have obstructions to the portal circulation sufficient to produce or assist in producing ascites and that the urine should be light in color and of light specific gravity. In order to make ourselves believe that we understood this form of ascites and anasarca we call it hydremic, which conveys about as much exact knowledge of this morbid process as that convenient word, idiopathic, gives us in regard to the real cause of the disease. Never having been able to find any satisfactory explanation of this renal ascites and why it occurs so much more frequently than hydrothorax and hydropericardium, I have watched this case with a great deal of interest. No doubt the hydremic condition of the blood and the nutritive disturbance of the capillaries are factors in renal dropsy, but only secondary factors, the primary factor is mechanical, though not in the same sense as in obstruction of the heart and liver. The peritoneum in Bright's pours out fluid more often than does the pleura or pericardium, because it is more pendent, it requires more arterial force to drive the blood through the capillaries of the peritoneum into the veins than through the capillaries of the pleura or pericardium. The abdominal veins are numerous and without valves, and edema into the abdominal walls seems to obstruct the venous circulation. When a dropsical patient sits up all day his feet are greatly swollen at night owing to their pendent position; after remaining in bed all night the swelling has disappeared by the morning. The patient is hydremic, but the fact that swelling occurred during the day when the feet were pendent and disappeared when the patient was in a horizontal position shows that this form of dropsy, too, is primarily at least, mechanical. With hydroperitoneum and perhaps with all dropsies there are two mechanical factors, the one as we have seen, pendent—gravity; the other is compression. No sooner has the blood serum escaped from the distended, weakened capillaries and veins than its accumulation in the lymph spaces outside the capillaries faster than it can be taken up by the lymphatics compresses the capillaries and offers mechanical resistance to the passage of the blood into the veins. In this case I noticed that as soon as the abdominal walls would become edematous the accumulation of fluid in the cavity was rapid. After the tapping of January 8 I packed the abdomen with hot applications of alcohol and water and bandaged, making quite a little compression. I thought by supporting the abdominal walls by bandage and stimulating the blood vessels by alcoholic stupes we might prevent the rapid pouring out of fluid by the mural peritoneum. It will be noticed in the next twenty days, only four quarts of fluid were obtained by the tapping of the 28th and from the 28th to February 10 we had only four quarts. During all the time the urine averaged about forty ounces with from 1 to 2 per cent. of albumin, and about two hundred grains of urea daily. The ascitic fluid usually contained about one-half of 1 per cent. of albumin. Since the first tapping. when the patient lost fifty-five pounds in the three and one-half days, we have taken by the various tappings sixty-eight quarts, 136 pounds, which added to the 55 pounds makes 191 pounds. From September 30 to February 10, 132 days, or 3,168 hours, the 191 pounds is 3,058 ounces, almost an ounce an hour. The patient has not been tapped since February 10, is still weak (April 10) but much better than he was before the first tapping. His diet has been largely milk and a prescription of carbonate of iron and sulphur is the only medicine that seems to agree with his stomach or to be of use to him. He always feels better while taking this prescription and the urine falls off when it is stopped. Too frequently, tapping is resorted to by many practitioners as a last resort; to my mind and in my experience it is the most important remedial measure we possess in these cases of renal ascites and anasarca, stimulating stupes and bandaging and gentle friction and massage are remedies for the prevention of the accumulation of ascitic fluids in Bright's disease. In this case the fact that the patient is living is owing entirely to tapping. He could not have lived many days in the condition in which I found him, nor would it have been possible to relieve him by cathartic medicine. There is still nearly 1 per cent. albumin in the urine, but it is not impossible for the kidneys to recover. In one case of cirrhosis of the liver, in which I was called in consultation, with the idea that tapping

ought to be done as a last resort to prolonging life, after repeated tappings collateral circulation was established and the patient lived three years. Paulus evidently approved of tapping and gives explicit directions as follows: "And it having been there shown that ascites alone falls under the province of surgery, we are now going to give an account of it. Wherefore we must make the patient stand erect, or if that can not be done, we must cause him to be seated, or if he is so weak that this can not be done, we must abandon the operation entirely. If then the man be standing erect we give orders to the assistants standing behind to press with their hands and push downward the swelling to the pubes. Then taking a sharp-pointed knife or lancet, if the dropsy is among the intestines, in the perpendicular line of the navel, and about three fingers' breadth distance from it we divide the hypogastrium as far as the peritoneum. But if the liver be primarily affected we must make our incision on the left side of the navel, or if the spleen, on the right, for we must not make an incision in that part on which the patient is disposed to lie. And having dissected with the point of the instrument the skin that lies over it, we divide the peritoneum a little above the first incision until the instrument comes to an empty space. After this we introduce through the incision of the abdomen and peritoneum a copper tube, having an opening like those of writing pens, and by this we must abstract the fluid in proportion to the strength; feeling the pulse and then removing the tube, we stop the flow of fluid (for it will stop immediately from the alteration of the incision) and, for the sake of security, we introduce a twisted tent into the incision of the abdominal parietes alone; and having placed the man in a recumbent posture and recruited him, we may next day again evacuate through the tube a small quantity of fluid proportionate to his strength; and thus in like manner, until very little be left, avoiding by all means a sudden evacuation, for some ignorant persons having evacuated the vital spirit with the fluid have immediately killed the patient."

REPORT OF A CASE OF CHRONIC TUBERCULOUS PERITONITIS

WITH REMARKS ON DIAGNOSIS AND TREATMENT OF THE DISEASE.

Read in the Section on Practice of Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY H. W. McLAUTHLIN, M.D.

PROFESSOR OF MEDICINE IN THE UNIVERSITY OF COLORADO; ATTENDING PHYSICIAN TO THE ARAPAHOE COUNTY AND ST. LUKE'S HOSPITALS.

DENVER, COLO.

A. S., male, age 55, born in the United States, occupation laborer, was admitted to the Arapahoe County Hospital, Denver, Jan. 10, 1896. His father died from violence and his mother from old age. One sister died of tuberculosis. He had been strong and robust up to three years before, having spent much of his life on the Western plains. He contracted syphilis when a young man. For many years he drank whisky more or less continuously. Three years previous to admission he noticed that the abdomen, feet and legs were swollen, and that he was short of breath. Some abdominal swelling had existed off and on since that time.

About a week before admission, while doing some heavy work, he was taken suddenly with sharp pains in the back and abdomen, especially in the lower part. He was obliged to take to his bed. On admission to the hospital, he still complained of pain, especially in the back. There was considerable ascites but no swelling of the feet and legs. The body was considerably emaciated, the face thin and the eyes sunken; there was no jaundice although the eyes looked muddy. The liver dullness was moderately increased upward. The ascites prevented any satisfactory abdominal examination. The examination of the heart, lungs and urine was negative. The pulse varied between 80 and 100. The temperature was usually below normal, and never rose above 100. The respirations were from 20 to 26. Within ten days after admission, the ascites had increased very considerably, and jaundice was plainly apparent over the whole body. As the ascites and jaundice increased, he grew progressively weaker, and more emaciated. He was inclined to be drowsy. The scrotum, feet and legs became quite edematous. The superficial veins of the abdomen and thorax were enlarged. He vomited occasionally after eating.

A report was requested, but not obtained, on the bacteriologic examination of the contents of the stomach after a test meal. As a rule there was no severe pain excepting in the lower part of the back. One attack of severe abdominal pain occurred, lasting about twenty-four hours and requiring turpentine stupes. The bowels moved regularly under sodium phosphate, which was being administered. The stools were clay colored after jaundice developed. One examination of the urine showed a faint trace of albumin with hyalin casts; the other examinations revealed nothing abnormal but bile pigment. He stated that frequent and difficult urination had troubled him previously at times.

The treatment was palliative. The attending surgeon was asked to withdraw the abdominal fluid in order to give some relief possibly to the patient, and to aid in the differential diagnosis. The surgeon, however, counseled against it. Death occurred February 11 from gradually increasing asthenia.

AUTOPSY.

The following autopsy was performed twenty-four hours after death by Dr. E. R. Axtell, pathologist to the hospital: The body is that of an adult male, apparent age between 50 and 60 years. The body is well developed, but poorly nourished. The skin shows much jaundice. Postmortem staining, and rigidity well marked.

On opening the abdomen, fully a gallon of serous fluid, deeply stained with bile, escapes, while apparently half that quantity remains behind in the dependent portions. Within the chest, the heart, lungs and pleuræ are found normal, excepting that all the tissues of the chest, especially the aorta, are bile stained.

The intestines are matted together into a mass the size of a child's head and lie in the middle line on the spinal column. They are only slightly distended, and the serous surface is studded with miliary tubercles varying in size from a millet seed to a grain of wheat. This tuberculous infiltration extends over all the abdominal organs as well as over the anterior wall of the abdomen.

The omentum is rolled into an elongated mass, twice as long as it is wide, and lies across the upper part of the abdomen underneath the stomach and just left of the portal fissure. On section this mass shows tuberculous infiltration, but no cheesy areas are found.

The liver is normal except for a large scar, undoubtedly syphilitic, on the upper surface of the right lobe. The spleen is normal. The stomach is normal except that the serous surface shows less tuberculous nodules than the surrounding tissue. The kidneys seem normal to the naked eye. The brain and cord were not examined. Cause of death tuberculous peritonitis.

A positive diagnosis was not made during life. It was supposed to lie between cirrhosis of the liver and cancer accompanied by limited peritonitis. In favor of cirrhosis were the following points: 1, history of steady indulgence in alcohol and of having had syphilis; 2, the development of marked ascites with only slight and slowly developing edema of other parts; 3, gastro-intestinal symptoms and jaundice; 4, the hepatic facies; 5, the increased liver dullness; 6, the length of time from the first symptoms to death.

Opposed to cirrhosis were the following points: 1, the history of swelling of feet and legs occurring simultaneously with the previous attack of ascites three years before; 2, the rapidly increasing jaundice toward the close of life would scarcely be expected excepting with the hypertrophic or biliary cirrhosis, a form not borne out by the other symptoms.

In favor of cancer were the following points: 1, age; 2, marked cachexia and wasting at the last; 3, negatively, the inability to exclude tumor in the gastric region on account of the ascites.

Opposed to cancer were: 1, the slow course of the disease (three years); 2, the absence of tumors in other parts of the body; 3, the extent to which ascites developed, which is usually slight unless associated with cirrhosis.

Had aspiration been resorted to, as it unquestionably should have been, it is more than likely that the omental tumor lying across the upper part of the abdomen, together with the smaller masses, some of which must have been palpable, although such conditions occur in both cancerous and tuberculous peritonitis, would have turned the balance in favor of tuberculous peritionitis as a diagnosis, all the evidence being taken into account, although opposed to it was the fact that no tuberculosis of the lungs or other parts could be demonstrated.

According to Strumpell, tubercle bacilli are not usually present in the exudation of tuberculous peritonitis, so that a bacteriologic examination of the ascitic fluid would probably have been useless as a diagnostic point.

It is interesting to study the probable starting point of the disease in this case. It could not have been part of a general tuberculous process. In such cases the peritoneum is usually affected through the intestines and mesentery. As in women, the disease often extends from the Fallopian tubes, so in man the prostate gland and seminal vesicles may be the starting point. The age, the history of frequent and sometimes difficult urination, and of the pain being especially located in the lower abdomen and back seem to point to the possibility of these structures having been the commencing point of the disease in this case. However, it is not improbable that the peritoneum as a whole may have been the primary seat of the process.

Out of 357 cases collected from literature in Vol. II of Johns Hopkins Hospital reports, only twenty-five were over 50 years of age. The present case was 55 years old.

The absolute covering of all tissue in the abdominal cavity by tubercles was an interesting feature in this case, as well as the tumor-like masses, especially the omental tumor in the upper part of the abdomen. Indeed the condition was not far removed from the one described by Osler where "In rare cases the tumor formations may be due to great retraction or thickening of the intestinal coils. The small intestine is found shortened, the wall enormously thickened, and the entire coil may form a firm knot close against the spine, giving on examination the idea of a solid mass. Not the small intestine only but the entire bowel, from the duodenum to the rectum, has been found forming such hard nodular tumor." In this case a large solid mass of intestinal coil was removed and exhibited in the lecture room.

Tuberculous peritonitis is of special interest in a diagnostic point of view from the great diversity of symptoms it presents, as well as from its simulation of other diseased conditions. It has repeatedly been found present in abdominal and pelvic operations without having been suspected. On the other hand, the onset may be so sudden and the symptoms so severe as to be considered ordinary acute peritonitis or even hernia. The ascites is usually limited in amount, but when it is large, cirrhosis of the liver may be simulated and suspected particularly if the patient has been an alcoholic. Moreover, cirrhosis often becomes complicated by tuberculous peritonitis before death. Again with moderate continuous fever, slow development, tympany and abdominal pain, typhoid fever, is simulated; while in some cases a peculiar pigmentation of the skin has caused the diagnosis of Addison's disease to be made.

Perhaps the most difficult feature of the diagnosis of tuberculous peritonitis arises from the frequent occurrence of tumors or tumor-like masses in the abdominal cavity. Osler in his text book on medicine speaks particularly of them. The rolled up and hardened omentum which may lie across the upper portion of the abdomen or below this region may simulate cancerous peritonitis although this condition is far more likely to occur in the former disease than the latter. When the fluid is sacculated, it is apt to be located in the middle zone of the abdomen, and in women ovarian tumor is simulated. The simularity must be great, for Osler says that in fully 33 per cent. of the recorded cases of laparotomy in tuberculous peritonitis, the diagnosis of ovarian cyst had been made; moreover tuberculous peritonitis is often associated with tuberculous disease of the tubes. Rotch in his pediatrics says "that most doubtful cases of abdominal tumors in children are tubercular."

Great diagnostic importance is placed on the personal history and on finding evidence in other parts of the body of old tuberculous lesions especially in the pleura, the apex of one lung, the testis in the male and the Fallopian tube in women. No reliance can be placed on the personal appearance, as a patient with this disease may appear well nourished and in good health.

Regarding treatment, the concensus of opinion today seems to be that it should be both medical and surgical; that if after rest and appropriate constitutional treatment, there is no progress and especially if the ascites increases or is already considerable, aspiration or siphonage should be done. If after one or two withdrawals, the fluid tends to return, especially if the case seems to be at all desperate, laparotomy should be resorted to. At times after withdrawing the fluid the cure seems complete, at other times there is temporary improvement, while again it happens that the tuberculous process is arrested in the peritoneum only to break out afresh in some other and probably more dangerous tissue.

INTESTINAL ANTISEPSIS, DIET AND CASTRATION IN RELATION TO EPILEPSY.

Read in the Section on Practice of Medicine, at the Forty-seventh Annual Meeting of the American Medical Association held at Atlanta, Ga., May 5-8, 1896.

BY EVERETT FLOOD, M.D.

SUPERINTENDENT OF HOSPITAL COTTAGES FOR CHILDREN.

BALDWINSVILLE, MASS.

The effort has been in the present paper to offer as briefly as possible some individual conclusions as to the advisability of employing the three methods enumerated in the title.

Pages have been filled, and can be again filled, with observations and statistics relating to the epileptic symptom. I leave aside now all that class of work and present these three as newer methods and those which to my mind promise, especially in young cases, rather better results than any plan with drugs as usually employed.

The first attack in many instances is after excessive eating, as in the following case: A girl of 14 ate heartily and hastily at dinner, then took a pint of peanuts on her way to school and, soon after the session opened, had a fit. She vomited large chunks of beef and a great quantity of other food. A second fit occurred three months later after another, though less, overindulgence in food; and they recurred at intervals, always with a similar apparent cause, though after the establishment of the habit the excess required was slight.

The person manifestly, in order to guide against excess and putrefaction as much as possible, ought from the outset of the child's life to have suitable food in right amount at proper intervals.

The gluttony of this class of persons is well known. Unrestricted they nearly all overeat. A sample supper recorded from an actual case, taken at random when no restraint was used was as follows: Boy of 14, six slices of bread and butter; one bowl of hulled corn and milk; three saucers of apple sauce; two cups of cocoa; three cookies.

Many such instances might be cited, though I am fully aware that the initial attack, when not traumatic, is not always traceable to the digestive overbalance.

To regulate and control the food of the child, when there is known to be danger, are rational methods of treatment and have actually proved effective in many instances. I have tested many drugs to a degree and still have observations going on, but I believe more fully in prevention of this trouble than in a possible cure, and the suggestion has many times presented itself as to whether or not the good effects of certain drugs in special cases may be more due to their tendency to correct either putrefactive changes or parasitic influences than to any other quality. With this in view I have a number under various methods of drug treatment, but not as yet conclusive results to record. Auto-intoxication in diseases has received much well merited attention.

We are taught in the main merely a suitable choice of food, cleanliness, right living and to prevent putrefactive changes as far as we can by drugs or other methods. We have merely the same principles to follow when putrefaction takes places instead of wholesome digestion as in the instances where we seek relief from parasitic products and from other sepsis or toxins.

Intestinal parasites are unquestionably common. They are not conducive to the health of the child and it would be well if all could be removed. Doubtless such forms of life have their place in the economy of nature; but inside the human subject that place should eventually be taken by nutrient solutions, unsapped by even microörganisms, for the strengthening of the surrounding body. Dog breeders well know that all dogs have worms and that vermifuge will prevent or cure fits. The relatively longer intestinal tract in dogs very likely increases the animal's liability to have a fit. Chickens from incubators are apt to be abnormal, to have fits, deformities, etc., but I can not say that they have fewer intestinal parasites than the ordinary chicken. It is claimed that no dog can be reared free from such residents, whatever precaution may be taken with food and care; but I am of the opinion that no case has, as yet, been adequately tested to determine this point.

For purposes of disinfection and for destroying a part of the parasitic life large injections into the bowels, large draughts of water and perhaps the use of the ozone preparations give promise of some favorable results. Keeping the bowels open by suitable food and manner of life, massage of the abdomen, baths to aid digestion, and the measures before outlined, will certainly afford us a better outlook than the over-medication which has hitherto prevailed.

I have twenty-two cases of castration to report, twenty in males and two in females. I was first led to do a castration by my desire to do something to prevent masturbation in certain few boys who were also epileptic, and the habit is not as likely to become offensive in the non-epileptic. Castration as well as circumcision, which, if not God-given rites, are certainly worthy to have come from the mind of Deity conscious of the need of correcting a structural error, have bitter opponents. I would not be so unreasoning as to expect all men to agree even upon the most self-evident proposition. The opponents of vaccination are howling with as much persistency in the face of the most convincing statistics as they did at the beginning of the century when Jenner was promulgating his beliefs. The operation is old. I need not go into its history though a volume might be written thereon.

There is no doubt that the custom prevails in Eastern countries, as formerly, of emasculating certain youths to serve as safe attendants upon the royal women, and among another class for the purpose of keeping the youthful qualities of the voice.

As to the method of operation I may be allowed briefly to suggest that it seems an advantage to make one very small incision in the median line of the scrotum and then squeeze out each testicle successively through the opening. The cut is then easily closed with one stitch and the place being painted with co. tr. benzoin, always heals at once. There will be some induration of the stumps beneath the surface but this gradually absorbs and in a very few days the patient is in a safe position. I hardly dare to claim priority of use of this operation, but I certainly originated and used it without knowing of its application in any other quarter.

The effects of castration are, as far as I have observed them, as follows: The masturbation, which is the most important, finally ceases in all cases. Sometimes it persists for months with varying intensity, but it is not obtrusive even in these instances and eventually the habit is dropped. The boy gets plumper and has a clearer complexion. The voice is milder and pleas-

anter and remains so if the case is a young one, at least for a few years, and probably permanently. The boy is less inclined to violence and domineering. The possibility of reproduction is of course eliminated. I consider this a most useful safeguard. I can not understand why any parent having such a son as we are considering should hesitate to have him castrated even if there were no other object than the last one named. No parent understanding the probability of inheritance in such a nervous case, ought to care to run the risk of becoming a grandparent. Sentiment is very wrong on most matters until set right by reason and education. So it is here. There is, however, some hope for spread of intelligence in such a matter as this, but judging from past progress I conclude that a hundred years of deliberation is likely to leave the public in much the same state of intelligence as at the present day. There has always been some fear among medical men that a male masturbator being castrated would fall into lasciviousness or into some other immorality worse than his first state. I do not find this fear substantiated in my cases. We had two boys who were kleptomaniacs as well as epileptic masturbators. For some weeks after the operation this manifestation was exaggerated, but it subsided entirely in a few weeks and only slight and infrequent traces have appeared for a year in one case and two in another. I find that these boys after operation do not entice other boys to masturbate. They have no tendency to think of sexual matters. The smutty story mania disappears and other unpleasant and gross manifestations are happily wanting.

The effect upon the force and frequency of the fits seems in all cases to be noticeable. There have been the same periods of fits and about the same length of period, but each fit has been less in time and milder in type.

Two females have been under my observations both of whom were castrated between the ages of 16 and 20. Certainly no general deductions can be made from so few cases but so far as my experience goes with them, I feel that the operation is not as thoroughly useful as with boys. There are, however, plenty of arguments to show that it is fully justifiable and might even be very desirable. To prevent conception is a very great desideratum, but to encourage the woman to safe and indiscriminate indulgence, which such a case would often be inclined to, would certainly be bad. The first two of these methods cut off in the offspring much of the unintellectualized emotional life which eventuate in the various neurotic disorders. The last is especially adapted to all those instances where we feel certain that marriage would never be proper.

DISCUSSION.

DR. G. W. WEBSTER, of Chicago—I assume that in the light of the most recent pathology, epilepsy may be said to be a condition of cortical instability. That is its essential underlying condition. It is characterized during the attacks by convulsive seizures, attended by loss of consciousness. If, then, we have, as a basis of the epilepsy, cortical instability, we must further recognize the fact that cortical instability may be influenced in many ways, directly, by the blood circulating in the cortical portion of the brain; and probably by uric acid and other waste products from the blood. This has led Haig and his supporters to hold that a large number of cases of epilepsy are due to uric acid circulating in the blood. The cortical portion of the brain may not only be influenced directly in the manner stated, but also by trauma, producing Jacksonian epilepsy. It may be influenced reflexly, and it is a matter of common knowledge that certain errors of refraction may produce epilepsy, and it was for this reason that a certain gentleman in New York a few years ago offered glasses or division of ocular muscles for the cure of all cases of epilepsy. We also know that in young boys irritation of the penis may result in epileptic seizures. I have seen the case of a child who was having as many as twelve to eighteen attacks in twenty-four hours, that had continued for a year and a half, cured simply by circumcision, we must remember, then, that we may have epilepsy as a reflex condition excited from the genital organs, from the eyes, from the intestines.

DR. LOUIS FAUGERES BISHOP, of New York—It seems to me that in discussing epilepsy as a reflex result of irritation we are going backward. Epilepsy is an essential disease of the cortex of the brain, and the fact that a certain small proportion of cases are aggravated by local irritation is acknowledged by all. But I think the stund taken now in the Vanderbilt clinic, where they have seen many thousand cases of epilepsy, and they have been referred to various specialists for various kinds of treatment. We have had them circumcised, trephined, the nose and eyes treated, and so on. We think that a reflex cause of epilepsy is a very small factor and that it is hardly justifiable even to trephine. Our cures from trephining have all been temporary, and certainly if you trephine in a case where the source of irritation is right at the cortex, and you find that in spite of removal of that area the cure is only temporary, you would feel that anything like castration was hardly justifiable.

DR. WEBSTER, of Chicago—The point which I insisted upon in the beginning of my remarks was, that the essential condition in epilepsy is one of cortical instability. That that brain, and the individual of which it forms a part, is what it is from two sources, heredity and environment; and that, given a child with a brain in this condition of cortical instability, treatment of the eye, castration, or anything else, will not change it, and we must recognize this cortical instability to begin with.

EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH BY MEANS OF CHEMIC ANALYSIS OF THE GASTRIC CONTENTS.

Read in the Section on Practice of Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, held at Atlanta, Ga., May 5–8, 1896.

BY W. C. WEBER, M.D.

VISITING PHYSICIAN TO THE GERMAN HOSPITAL.

CLEVELAND, OHIO.

The question of how to arrive at an early diagnosis of cancer of the stomach is certainly one which has attracted considerable interest in recent years, and hence concentrated efforts in the study of this peculiarly interesting disease. The reason of this becomes apparent in view of the fact that not infrequently cases come under one's observation which present few and indefinite objective symptoms and a vague sense of disturbance in the digestive process as the only subjective symptom of ailments which in their later stages prove unmistakably to be cancerous.

To proceed in the ordinary way, to palpate, percuss and gather the history of the case, is insufficient and often ends in negative and disappointing results. Such failures can, to a great extent, be obviated by supplementing the usual method of diagnosis with a process of chemic analysis to which the stomach contents are subjected.

The time was, not long since, when the absence of hydrochloric acid from the stomach contents was regarded as a symptom almost pathognomonic of car-

cinoma. This symptom in itself does not now receive the diagnostic prominence it did in the past, for the reason that this acid may be absent in both acute[1] and chronic gastritis in which no neoplasm exists as a causative factor.

At the present time there is a tendency to attribute great diagnostic importance to the existence, in the gastric contents, of lactic acid. It may scarcely seem necessary to say that the presence or absence *per se* of one or the other of these acids is no positive sign of the existence or non-existence of cancer of the stomach. The constant absence of hydrochloric and the contstant presence of lactic acid, in connection with certain other symptoms or conditions are of the highest diagnostic import. This point I shall endeavor to emphasize by the citation of a case or two, further on, which at the same time illustrates characteristics of cases most difficult of diagnosis.

Preparatory to the investigation of the gastric juice all medication is to be excluded for a day or two previous to the administration of the test breakfast which consists of a light biscuit or small piece of toast and a cup of weak tea or glass of water (it is well to note here that after the test breakfast the HCl may be absent and may reappear when a meal of steak, potatoes etc., is used); this should be given from one to two hours before the removal of the stomach contents which should be forced, or expressed, through the stomach tube without the addition of water and the stomach may then be lavaged in the usual manner before the tube is withdrawn.

The quantity of the expressed gastric contents is noted, then filtered and the reaction determined; if this be neutral or alkalin no acid tests need be applied; if acid, the total acidity may at once be ascertained by the process of titration; or one or more of the tests for free hydrochloric acid may be used. Those most commonly employed are the anilin dyes of which Günzburg's test dimethylamidoazobenzol, Congo-red and tropeolin are preferred. Tropeolin, an orange colored powder, is dark yellowish red in saturated aqueous or alcoholic solutions and in the presence of free HCl (1 in 4,000) changes to a dark brown; the acid salts give it a light straw yellow.

Congo-red is changed to a sky blue by the presence of hydrochloric acid. It is more delicate than tropeolin and is not affected by acid salts. A paper has been prepared containing this substance and is used in the same manner as litmus paper.

The first mentioned test, Günzburg's,[2] possesses several important advantages over those just described. This reagent has a pale yellow color and is fairly stable when kept in a dark place. Its superior value chiefly lies in the simplicity of its application, the reliability of its action, which is not interfered with by the presence of albuminates, giving it in this latter respect a distinction accorded to none other of this group; it has no effect on salts or organic acids. To a drop of the reagent in a porcelain dish is added a drop of stomach contents and slowly heated over an alcohol lamp; if free HCl is present, even in so minute a quantity as 1 in 20,000, there is produced a bright red tinge along the edges or delicate stripes through the drop. Overheating, especially when albuminous matter is abundant, produces a brownish or reddish coloration in the center of the drop, which, however, is easily distinguished from the characteristic reaction of HCl. Should there be any doubt as to the character of the reaction it is advisable to make use of a control test which may consist of an indefinitely dilute hydrochloric acid solution. This reaction is always a distinctive one though varying from a bright red to a pale rose color, depending on the degree of hydrochloric acidity. By a little further detail the test can be rendered quantitative by diluting the gastric contents one-third, one-sixth, one-tenth and so on with water, noting between what two successive dilutions the reaction no longer appears the limit of which we know to be in the neighborhood of 1 in 20,000. Another test which has lately come to our notice is the dimethylamidoazobenzol.[3] It consists of the addition of one or two drops of the reagent to one or two drams of the stomach juice, which changes to a red color when HCl is present. The stability of the reagent, its delicacy and extreme simplicity of application, make it one of the most, if not the most preferable of all tests.

As a high degree of acidity of the stomach contents does not in itself indicate the presence of HCl, yet possessing pathologic significance, it becomes important that the total acidity be determined. This is accomplished by the process of titration which is as follows: A deci-normal soda solution is allowed to flow from a burette, drop by drop, into a small glass beaker containing 5 or 10 c.c. of the filtered stomach contents and one or two drops of phenolphthalein solution. When the acid reaction is overcome the contents in the beaker changes to a red color, and the reading from the burette indicates in c.c. or fractions thereof the amount of the standard solution required to neutralize, from which the percentage of acidity can readily be calculated. To illustrate: Suppose it would require 3 c.c. of the deci-normal soda solution to neutralize 10 c.c. of gastric contents; it is thus apparent that the total acidity is 3 or in other words 30 per cent. In place of the phenolphthalein, litmus paper or better the litmus pencil can be used, but these require more labor and care. The normal total acidity ranges from 40 to 65 per cent. and a deviation in either direction from these figures is regarded as abnormal.

As it is not intended in this paper to dilate on the significance of a high or low degree of acidity of the gastric juice, and omitting the citation of the class of diseases occurring in each condition, we come to the consideration of lactic, the principal of the organic acids. The presence of the organic acids in the early stage of gastric digestion may be and usually is normal; it is, on the contrary, when found in the later stage of the digestive process, attributed to morbid influences. This is not difficult to comprehend when it is remembered that the prolonged sojourn of food tends to fermentation in the stomach due to pathologic alterations, notably such as occur in carcinoma of this viscus. But inasmuch as we do not at this time wish to deal with the etiology and pathology of cancer of the stomach, it is perhaps sufficient to state that there is a preponderance of evidence indicating the presence of lactic acid in cancerous diseases of this locality fully as often as the demonstrated absence of the hydrochloric.

Boas, in 1893, was first in calling attention to the value of lactic acid in the diagnosis of the disease under consideration. He further made the observation that this acid is produced in all test meals in which

[1] Ewald, p. 290.

[2] Phloroglucin 2, vanillin 1, and absolute alcohol 30.

[3] Fisher and Philipp, Anal. Pharm. 23, § 434.

bread or meat enters as a constituent; and he therefore resorts to a breakfast of 1 to 2 liters of a thin oatmeal gruel sprinkled with a little sodium chlorid; this is expressed from the stomach an hour later and Uffelmann's test applied. This test is based on the reaction of lactic acid on a diluted neutral ferric chlorid solution. It is a very simple method and the reagent can be freshly prepared for every application in the following manner: To 1 dram of a 5 per cent. aqueous carbolic acid solution add one or two drops tinct. ferri chloridi which turns it to a beautiful amethyst blue. When a solution containing lactic acid is brought in contact with this reagent thus prepared it assumes a canary yellow. The reaction is very characteristic and limited experience will enable the tyro in this line to make the proper distinction between this and various other shades of yellow which may be caused by such substances as sugar, alcohol, and particularly the phosphates. When the stomach juice has a decided yellowish color, the test may be unsatisfactory, necessitating a modification which can be effected by obtaining an ethereal extract, which is then subjected to the usual method. The fatty acids react to Uffelmann's reagent by giving a tawny yellow with a reddish tinge. This is particularly so in the case of butyric acid which can also be demonstrated by the presence of minute oily drops forming in an aqueous solution of the residue of an ethereal extract to which calcium chlorid has been added.

Acetic acid can best be detected by the sense of smell unless present in a very minute quantity. Peptones and propeptones (test applies to both) may be readily demonstrated by the biuret reaction. This consists of the action of a dilute cupric sulphate solution on the peptones or propeptones, producing in an alkalin medium a purple red color, while albumin simply shows a bluish violet.

In this connection it was interesting to note in my work that when the heat and acid tests showed large quantities of albumin, a correspondingly feeble biuret reaction took place, and vice versa, so that by testing for the one the presence or absence of the other could be quite accurately predicted. It seems that peptones are formed whenever pepsin is contained in acid contents, though HCl be absent. Hence no great diagnostic significance attaches to these products.

Examination of the blood will often lend very material aid in differentiating carcinoma of the stomach from the pernicious anemia caused by atrophy of the glandular apparatus of the stomach. In cases of cancer of the stomach that have reached a stage where it may be confounded with the pernicious anemia dependent upon glandular atrophy, there is always a polynuclear leucocytosis of varying degree, poikilocytosis, a considerable loss of hemoglobin, a diminution of the number of red cells, which, however, is not as marked as in cases of pernicious anemia of glandular atrophy.

The practicable application of the foregoing at once becomes apparent when we recall experiences in diagnosis of stomach diseases where, for example, a carcinomatous affection has been called in turn, "a little stomach trouble," "dyspepsia," "chronic catarrh," etc., until the disease has made such progress in its development that longer failure in its recognition would be almost impossible. For, does it not seem reasonable that an organ having undergone structural changes, should first evince that fact by an alteration in its function? If so, we may reasonably expect pathologic changes in the secretions at a comparatively early period, the clinical significance of which is now more correctly interpreted.

As before stated, it is common knowledge that for some years too great a value has been placed on the absence of HCl, the hitherto almost certain symptom of gastric carcinoma. Now, it is generally recognized that any morbid process which involves the deeper structures, and especially the peptic glands of the mucous membrane, may be followed by the cessation of the formation of this acid, and therefore can not be regarded with the importance of the past, for it is also a well-known fact that in a great majority of cases of hepatic cirrhosis there is a complete absence of HCl.

It has been stated, too, that the production of lactic acid was caused by stagnation, and Boas and his followers affirm that in no disease in which stagnation of stomach contents occurs is there so much lactic acid ferment developed as in cancer of the stomach. Notwithstanding, this observation has been corroborated by other authority, to unqualifiedly assert that the absence of the mineral and the presence of the organic acid is positively indicative of cancer, would be too strong a statement. In support of this view it is pertinent to call attention to the case of Noorden,[4] of Frankfort. He found HCl absent and lactic acid present in enormous quantity in a case of gastric ulcer that had perforated into the pancreas.

In chronic gastritis and atrophy of the mucosa due to any cause, there may be a diminished or entire absence of HCl; and if the latter acts merely as an antiseptic, as has been suggested, thereby preventing the formation of lactic acid, it may readily be seen that the acid symptoms are insufficient in themselves for positive diagnosis. But when these are associated with any one or two of certain other symptoms, as cachexia, loss in weight, pain or tumor, scarcely a doubt remains as to the nature of the disease. Unfortunately, it often happens that none of the last mentioned symptoms become manifest until the disease has progressed toward its fatal end, the time having long gone by when surgical means might have offered the only avenue of escape from the inevitable doom. When vomiting, great diminution in weight, tumors, etc., have declared themselves, the disease has passed beyond human intervention. In view of the foregoing, the time may not be far distant when tumors (cancers) will be removed from the stomach with far greater frequency than they are at the present time. And to make this possible is, I believe, the province of medicine—to clear and illumine the way on the line indicated.

To give statistics illustrative of what others have accomplished in this field, would no doubt be interesting, but time forbids. We will therefore conclude this paper by citing two cases which quite accurately represent a large proportion of cases in which none of the symptoms formerly relied upon are visible, but whose gastric juice nevertheless, in connection with the conditions before mentioned, bears us a message of great diagnostic value.

Case 1.—Mr. E. M., aged 68, normal weight 200, tall and complexion light, married and father of several children. Lived an active out-door life and enjoyed good health until the time of the illness of which we are writing. With the exception of being an excessive smoker, personal habits were good. Heredity, negative. The existing difficulty first manifested itself nine months ago. The first symptom noticed was a disturbance in the digestive process; then sour eructations, loss of appetite

[4] Medizinische Blätter, Feb. 7, 1895, No. 6, p. 87.

and constipation; later, diminution in weight, fatigue and antipathy to meats. These symptoms were variously characterized as dyspepsia, catarrh of stomach, etc., and of course empirically treated. At this time, the chief subjective symptoms were anorexia, general weakness, increased flow of saliva, and a vague sense of disturbance in the epigastrium; had vomited a few times. Examination revealed no tumor and no cachexia; the lungs showed no abnormality and the liver occupied its normal relation, but the heart action was weak.

The stomach contents were expressed at intervals of once or twice a week and tested for HCl and lactic acid; the former was always absent, and the latter invariably present. The total acidity averaged 50 per cent. Under the influence of the lavage and carefully directed diet with strychnia, the patient made considerable improvement subjectively, but the circulation continued feeble. A month later, there was vomiting of the characteristic coffee-ground variety. An induration of small size could now be made out in the epigastric region. Left kidney was movable and easily defined. An abundance of uric acid was in the urine.

From this time on the case progressed rapidly in developing tumor and cachexia, reaching its fatal termination on Dec. 21,

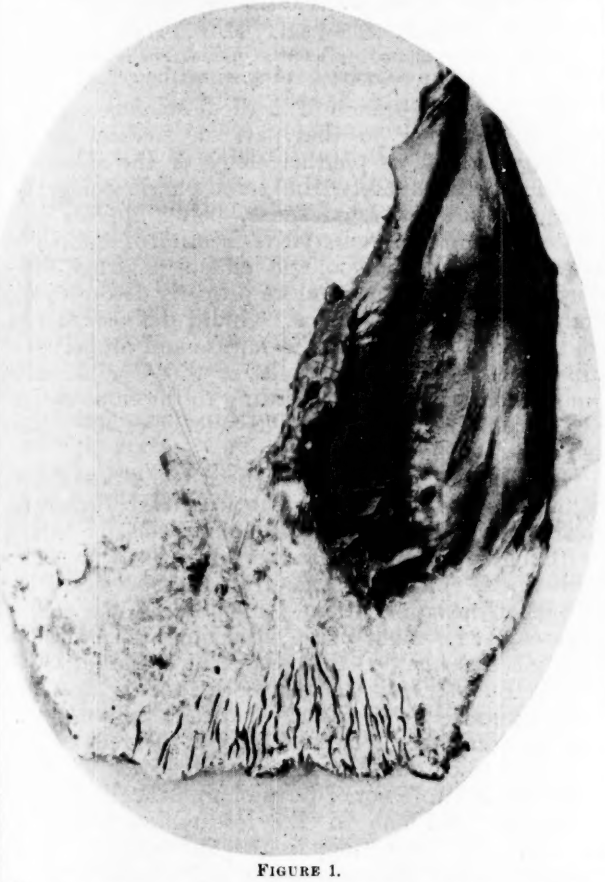


FIGURE 1.

1895. The autopsy revealed carcinoma involving approximately one-third of the stomach from the pyloric end, on the posterior side. The pylorus was a hard mass, and on opening, a concentric tumor became visible which completely filled that end of the stomach. To the posterior surface of the cardiac extremity of the stomach the left kidney was adherent, and on the latter when removed, appeared a cyst one and one half inches in diameter containing a clear fluid. The stomach was considerably dilated.

Case 2.—Saw this case first on June 6, 1895, when the following history was furnished: Mr. J. C., aged 40, of slender build and light complexion; married five years and father of one child. Patient has never had any serious illness. During the last two or three years his general appearance was not indicative of good health. For about two months he mildly complained of a stomach difficulty. For this he received treatment and his family the assurance of his early recovery. All this was promised up to within three days of his death, when the case came under my observation. Patient was confined to his bed since the 18th of last May, when he experienced a gnawing sensation in epigastric region and considerable prostration. In a short time vomiting, fever and thirst supervened, for which large quantities of ice and morphia had been administered, though he had at no time complained of pain. Emaciated rapidly, and soon vomited enormous quantities of a grumous material at frequent intervals.

Examination revealed no tumor, no pain, only tenderness in the epigastrium on pressure.

The circulation had become enfeebled to such an extent that patient died from exhaustion on June 10, 1895. The gastric contents contained neither HCl nor lactic acid, though the tests were applied daily. The following shows[5] both the chemic and microscopic analysis of the stomach fluid:

Hydrochloric acid, Günzburg's was negative, dimethylamidoazobenzol was negative; degree of alkalinity, 36 (Ewald's method); lactic acid, negative; albumin, present; peptones, negative; propeptone, negative; blood, present; bile pigment, negative.

Microscopic examination: White and red blood corpuscles, present; flat and cylindric epithelium, present; several varieties of bacteria, but no sarcinæ ventriculi.

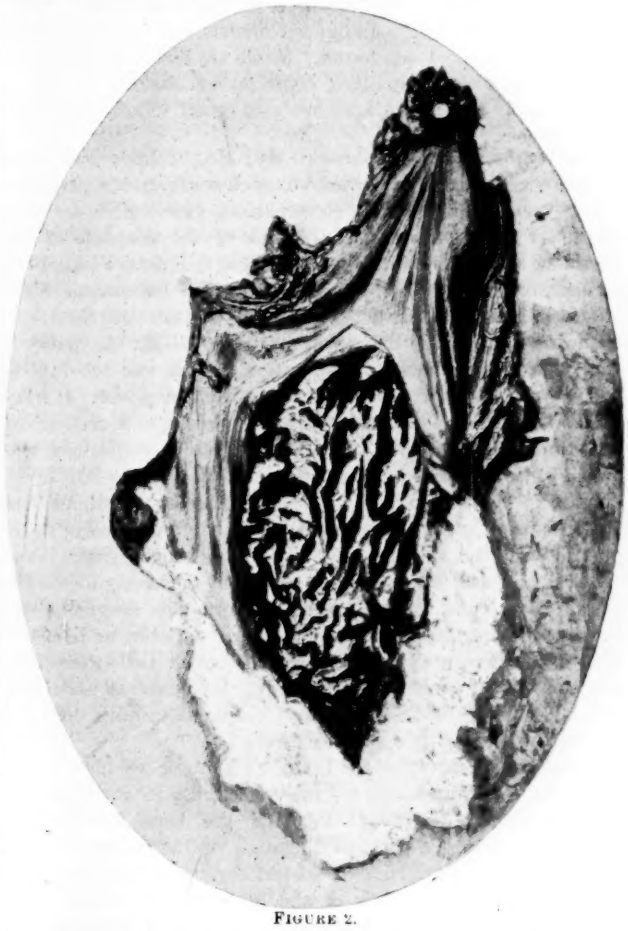


FIGURE 2.

Autopsy showed three inches of the pyloric extremity of stomach to be a carcinomatous mass with the characteristic blue and gray color and thick gritty hardness. The pylorus was almost closed and the stomach considerably dilated. Photograph No. 1 presents a good anterior view, and No. 2 the interior, the incision being through the posterior surface.

Finally, I will state with confidence that the diagnosis in Case 1 was made on evidence furnished by the chemic analysis of the chyme, in conjunction with the only constitutional symptom present—general weakness which refused to be modified in the least degree by medication. The method crudely outlined necessitates increased labor and the knowledge of certain technique, which will yield results, I believe, that

[5] For the preparation of this table I am indebted to the kindness of Dr. R. J. Wenner.

will amply justify the efforts expended in so fascinating a field as this one.

DISCUSSION.

DR. JAMES B. HERRICK, of Chicago—I believe it is true that Congo-red has been proven to be a reliable test for free hydrochloric acid, and negative results may be assumed to exclude this acid as well as other mineral acids. I am glad to see that the author does not rely alone upon examination of the contents of the stomach for proof of the existence of carcinoma. He justly calls attention to the value of blood examination and the presence of leucocytosis as confirmatory of the diagnosis of carcinoma. The presence of cachexia and other signs must not be ignored. He calls attention to the fact that free hydrochloric acid is frequently absent in many other affections than carcinoma, and it is also true that some of the later writers have found lactic acid in the stomach contents where no carcinoma was present. For instance, in Professor Osler's clinic there was a case of non-malignant obstruction of the pylorus in which lactic acid was found. So we are forced to look upon examinations of the stomach contents, at least in so far as hydrochloric and lactic acid are concerned, chiefly as confirmatory tests.

DR. WAINWRIGHT, of Kansas City, Mo.—I have had some experience with analysis of the stomach contents the past four or five years in clinic work. Several times I have made an early diagnosis based on a chemic analysis of the contents of the stomach, but I have never yet been able to induce a patient to be operated upon with only such evidence of carcinoma of the stomach. Later when a tumor could be felt and there was cachexia, making the diagnosis very plain to all, the patients were willing to submit to an operation, but it was too late to derive any benefit. The most satisfaction which I have derived from this analysis has been in cases of obscure tumors of the abdomen. During the past winter my attention was called to two or three cases of tumor located in the left hypochondriac region which every physician who examined the patients pronounced tumor connected with the spleen or other organ beside the stomach, yet by analysis of the gastric contents, etc., I was able in each instance to positively locate the tumor in the walls of the stomach, and this diagnosis was afterward confirmed by autopsy. If we are able, as I believe we are, to make a diagnosis of carcinoma of the stomach in the early stage by careful analysis of its contents and functions, I think the time will soon come when surgeons will relieve these cases by operating early.

DR. PAUL PAQUIN, of St. Louis—Although we have many maladies of the stomach, we are yet hardly in a position to make a proper diagnosis. Perhaps the time has not yet arrived for making a positive diagnosis of the diseases of the stomach purely by chemic or bacteriologic analysis; yet in my judgment such analysis is of the greatest importance, especially as giving confirmatory evidence. Such analysis has been a part of my work for some years past, and I am delighted to know that we are progressing in that line. I am, however, of the opinion that we are inclined sometimes to neglect physical symptoms, and to consider too much and too strongly the results obtained by analysis. We must consider that in no other organ except the alimentary canal do we get such chemic changes as are produced by the ingestion of food, beverages, and so on, and we can not depend upon the findings of the chemist and microscopist as a basis for therapeutics. But before this analysis was introduced in the work of the physician for the purpose of diagnosis, he certainly was a great deal more at sea than now, and we have to-day workers like the essayist who are leading up to the ground which we must finally occupy in order to diagnosticate many of the diseases of the alimentary canal.

DR. WEBER—It is gratifying to observe the endorsement of this paper as indicated by the discussion which leaves little or nothing to be added. It may be emphasized, however, that when you find a well defined tumor, cachexia, and great loss of weight, that patient is past surgical or any other help, and most of us will decline to resort to operative measures at such a stage. The second case which I reported, was most interesting for the reason that no tumor was discoverable by palpation or physical means to within a day of death, and, contrary to the rule, there was absence every day of lactic acid. Another case to which I referred showed enormous quantities of lactic acid, and the autopsy proved it to be an ulcer of the stomach. Hence the conclusion in my paper seemed justifiable—that the acid symptoms in themselves are not always reliable, but when taken in connection with other facts are of the greatest value.

THE PRACTICE OF PHARMACY AS A LIBERAL PROFESSION.

Delivered in the Section on Materia Medica, Pharmacy and Therapeutics, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY F. E. STEWART, M.D., PH.G.

CHAIRMAN OF SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS. DETROIT, MICH.

Pharmacy is a branch of medical science and practice. It belongs to that part of medical science formerly known as pharmacology, or the science of drugs. Unfortunately the term pharmacology has been used in a restricted sense, being applied more particularly to experimental vivisection of animals for determining the physiologic effects of drugs. The word pharmacodynamics more properly describes that branch of medical science. Gould defines pharmacology as "A treatise on the nature and properties of substances used as medicines, or those employed in their preparation," and according to the same authority, pharmacodynamics is "The science of the powers and effects of medicines."

H. C. Wood, in the introduction to his classic work on materia medica and therapeutics, clearly defines the meaning of terms used in this connection by saying, "Although pharmacy, or the science of preparing medicine, is entirely distinct from therapeutics, or the science of the application of medicine to the cure of diseases, it is evident that some acquaintance with the former is necessary to the correct appreciation of the latter. Further, as a basis of both studies, must first come a knowledge of materia medica or the substances used as medicine. Pharmacology is the general term employed to embrace these three divisions."

Hermann, professor of physiology in the University of Zurich, and one of the leading authorities in experimental vivisection, in the introduction to his "Experimental Pharmacology," a hand-book of methods for studying the physiologic action of drugs, says: "Pharmacology in its widest scope embraces the study of drugs from all possible points of view, and the information thereby acquired may be useful under the most diverse conditions; to the physician, to enable the recognition and proper treatment of cases of poisoning, or to permit of the use of drugs for therapeutic purposes; to the public, to permit the avoidance of noxious substances; to the physiologist and pathologist, to enable the application of information derived from the study of the action of poisons to the advancement of their sciences. The study of pharmacology can therefore be limited according as one or more of these points of view occupy the first place in the mind of the investigator. The public desires to know only what substances are poisonous, that they may be avoided, while their modus operandi is a matter of

indifference. Those poisons which are suitable for use at the bedside will prove most interesting to clinicians."

"Pure pharmacology is best advanced by the avoidance of any special stand-point, in order that all of its bearings may be equally appreciated, and still more, since the advancement of pure science is always retarded by a search for that only which promises immediately practical results. The history of the progress of the sciences teaches that nearly all the most important discoveries, even those subsequently of the greatest practical value, resulted from investigations untrammeled by a continuous mindfulness of the merely practical. Thus physiology has rendered such inestimable assistance to the progress of practical medicine that she can well be regarded as her handmaid; but, nevertheless, physiology is a pure science, which, like physics and chemistry, should be studied for its worth, without being hampered by doubts as to whether its results are immediately applicable to practical medicine or not. So also pharmacology is growing more and more worthy of occupying a similar position, though it must be acknowledged that as yet, it is not bounded by such sharply drawn lines as to constitute a distinct science. Much, however, can be gained in this direction by constantly bearing in mind that pharmacology has for its object the recognition and study of all changes which a foreign body can undergo or produce, otherwise than traumatically, in the organism, while the questions as to whether the substance under study can be ever likely to prove a poison to man, or whether it has properties which warrant its use as a medicant, should be kept in the background."

"Consequently every substance which possesses any active properties should prove of interest to the investigator in the domain of pharmacology; while naturally those substances will be preferred which are either quite unknown, which show results entirely novel, or whose action admits of predetermination from a theoretic point of view, as from the stand-point of chemical composition. And it should, moreover, be remembered, that even substances which themselves evoke no symptoms in the organism, may form worthy subjects of pharmacologic investigation as throwing possible light, in the changes which they undergo in the system, on the behavior of other more active poisons."

If pharmacy is a department of science, its practice is a medical art. It therefore follows as a natural sequence that pharmacy must be regarded in the light of a medical specialty, and the pharmacist is under the same obligation to science, to the profession, and to suffering humanity as the physician.

Now medicine is a liberal profession. It is distinguished from a mercantile pursuit in that service to humanity (not money-making) is its primary object. What business or profession is there like medicine in this respect, viz., that it seeks to remove the cause for its very existence. And yet we behold such unselfishness and devotion to humanity in preventive medicine, which leaves no stone unturned to ascertain and subdue the causes of disease which the physician gains a livelihood by treating. Indeed, medicine owes its high position among the vocations of men to its philanthropic aim, seeking in every way to relieve and prevent human suffering, devoting itself to original research, and publishing its results for the benefit of science, constantly sacrificing self-interest to aid others, and neglecting, for philanthropic reasons, to take advantage of many opportunties for gain.

If what I have said is true then pharmacy can never be recognized as a liberal profession, until it becomes part of the medical profession, for it can not, from the very nature of things, become a profession by itself. Pharmacy is directly dependent upon therapeutics, and is like a body without a soul when divorced therefrom.

Pharmacy can find its *higher* advancement, not by catering to an unenlightened public, unfitted to appreciate it either from a scientific or professional standpoint, but by working with physicians to a common end, that end being the promotion of progress in pharmacology as a science, the advancement of pharmacy as a profession, and the study of means to prevent and alleviate human suffering. By serving this end pharmacy will find its true position among the liberal professions.

As a trade pharmacy would seek to create a fictitious demand for drugs by exaggerating their importance as curative agents, thus pandering to the morbid tendency of the public to dose itself for real or imaginary diseases. As a profession it will join with the medical profession in efforts to relieve the public of the necessity of taking medicine. Coöperation between the physician and pharmacist is absolutely indispensable to the advancement of pharmacologic science, for as already said, neither therapeutics or pharmacy as science or practice can exist alone.

The science of medicine professes to exhibit what is actually known, or may be learned, in the forms of exact observation, precise definition, fixed terminology, classified arrangement and rational explanation. To promote the progress of the science of drugs it is therefore necessary for both professions to publish the results of their discoveries for the benefit of science. It is just as reprehensible for physicians to neglect the publication of the results they obtain from the use of drugs, or their preparations, as it is for the pharmacist to restrain the knowledge of the same from general use, by means of secret formulas, protected from legitimate competition by fanciful names, which latter are registered as trade marks, at the Patent office in Washington. How can the demands of science be satisfied unless the knowlege of every substance used in medicine, together with its method of preparation and application to the cure of disease is published, and its manufacture and sale open to legitimate competition?

"In every civilized country[1] there is some recognized official list of drugs and their preparations known as the pharmacopeia. In most places this being prepared with the sanction of the government, partakes of the nature of a law, but in the United States conformity to it depends upon the voluntary action of the professions, of medicine and pharmacy by a representative convention of which it was originally prepared and is decennially revised."

The position and responsibility of the physician and pharmacist in relation to the pharmacopeia is the next point to which I desire to call your attention. On the analysis of 27,000 prescriptions recently made by Prof. Patch, President of the American Pharmaceutical Association, it was shown that the pharma-

[1] A treatise on Therapeutics comprising Materia Medica and Toxicology by H. C. Wood, Jr., M.D. Third Ed., p. 17, Philadelphia, J. & B. Lippincott & Co., 1860.

copeia was sadly neglected by physicians. Only seventeen vegetable drugs were prescribed, and more than one hundred drugs of vegetable origin neglected. Ten metals were honored, but more than ten were left out in the cold. In fact the entire materia medica comprised by these 27,000 prescriptions consisted of the following drugs and preparations, viz:

Acetanilid; antikamnia; antifibrin; antipyrin; aristol; phenacetin; acid arsenious; acid boric; acid carbolic; acid hydrochloric; acid salicylic; acid sulphuric; acids, twenty-five other kinds; aconite and its preparations; ammonium salts, chlorid, carbonate, bromid, etc.; belladonna, its preparations and alkaloids; bismuth salts, principally the subnitrate; brandy; camphor and its preparations; cascara sagrada and its preparations; chloroform, its preparations and combinations; cinchona and its preparations, combinations and alkaloids; digitalis and preparations; gentian and preparations; ginger and preparations; glycyrrhiza and preparations; hyoscyamus and preparations; iodin and preparations; lead salts and preparations; mercury, its salts and preparations; nux vomica, its preparations and alkaloids; potassium salts and preparations; rhubarb, its preparations and combinations.

In this study of 27,000 prescriptions from nineteen drug stores distributed between Chicago, Philadelphia, Bayonne, N. J., Boston, Washington, Baltimore, Denver, San Francisco, New Orleans, Cincinnati and St. Louis, 11.25 per cent. were proprietary articles, not including many elixirs, pills, tablets, fluid extracts, etc., which were of specified manufacture.

An analysis of 10,000 prescriptions, made by the committee on revision of the United States Pharmacopeia of the Illinois Pharmaceutical Association, shows that in 2,613 prescriptions, or about one-fourth of the whole number, proprietary remedies were prescribed. Many proprietary articles are of the greatest value. They are often the products of manufacturing houses provided with the very best facilities of manufacturing. Many of them represent the researches of the most learned chemists, extended over years of careful investigation. In fact it is fair to assume that some of our proprietary medicines advertised to the medical profession in the medical journals represent the van of progress in pharmacy. To be sure, some of them are of comparatively little value, and should find a place in the lumber room with the trash in company with much of what is now official in the pharmacopeia. But that is no argument against those that are of value in either case.

Now assuming that the proprietary medicine referred to are valuable pharmaceutic preparations, it is evident that a place should be found for them in the next revision of the pharmacopeia. It is equally evident that they can not be admitted as proprietary medicines, unless the medical profession shall endorse a system which withholds from general use that entire class of preparations. Such an endorsement on the part of the medical profession would be a complete surrender of the altruistic ideal that distinguishes the practice of medicine as a liberal profession, and an endorsement of a most dangerous form of commercialism.

From what has been said above, it is very evident that affiliation between physicians and pharmacists is of first importance to promoting progress in the knowledge of pharmacology, to improving our pharmacopeia, and to the rescue of medical and pharmaceutic practice from the grasp of the proprietary medicine trade, which is now encroaching upon the domain of the pharmacist and the physician. But, you say, there are unsurmountable obstacles to affiliation between the pharmacists and physicians. They are at war with one another everywhere. Physicians charge that pharmacists prescribe over the counter, and that the practice is unjustifiable, as they are not competent to do so either by education or training, and it is an unwarranted interference with the physician's prerogative to treat the sick. But the pharmacist can urge with equal propriety that the physician is not competent, either by education or training to compound and dispense his own medicine, and for him to do so is an unwarranted interference with the prerogative of the pharmacist. But there is a great deal of difference between the deep blue sea and the dry land, though one overlaps the other on the beach. Now it seems to me that this question of interference between the pharmacist and physician is something of the same nature. Both may wade with impunity in the shallow waters along the shore, and do no real harm to each other, or to the public at large. But there are depths in pharmacy capable of drowning the venturesome physician; and the pharmacist who attempts to climb the high mountains of diagnosis and treatment is sure, sooner or later, to fall and break his neck. Yet in some countries these prerogatives are protected by law, and both physician and pharmacist must keep on his own side of the fence.

But, say the physicians, we can never unite with pharmacists until they no longer renew our prescriptions without our authority. It is damaging to our reputation and purse, and a very unfriendly act to say the least about it. But physicians lose sight of the fact that both professions are servants to the public, and if the patient is refused the privilege of having his prescription renewed, he will seek another physician and another pharmacist. Not until the public is educated to appreciate the necessity of consulting the physician before renewing prescriptions will the prescription-renewing nuisance be abated. Pharmacists, to a great extent, are powerless in the matter. And the medical profession has done much to foster the abuse by prescribing ready-made nostrums, so the fault is not entirely with the public either.

Physicians complain bitterly that pharmacists sell "patent" medicines and thus make themselves the agents of the nostrum monger. But the proprietary medicine business owes its present standing in the community more to the medical profession than to the pharmacist. More than ten per cent. of the medicine prescribed by the physicians in the United States are so-called "patent" medicines, and the physician is just as much to blame for prescribing them, as the pharmacist for selling them. I can see no good reason why harmony can not be restored between the pharmacist and physician. Once in touch, and working for a common object, many of the evils now complained of will rectify themselves in time, and the public will soon feel the influence of a united profession, and respect the calling of both physician and pharmacist more highly in consequence.

Two questions naturally present themselves at this juncture, 1, How can coöperation between physicians and pharmacists be secured? 2, What are the best plans for promoting progress in the science of pharmacology, and the useful arts of pharmacy and therapeutics? The answers to these questions merge into each other, so we will consider them together.

First of all, State medical and pharmaceutic societies would do well to imitate the example of the national medical and pharmaceutic societies in the matter of interchange of delegates. Sections on pharmacology should be established in State societies, and physicians and pharmacists should join in debate regarding drugs and their properties. Local pharmaceutic societies should be formed, to meet in conference with the local medical societies at least quarterly. In places where that is impractical, the local pharmacists might be invited to attend the meetings of the county medical societies, and join in debates on subjects of mutual interest. These interesting debates when published in the medical and pharmaceutic journals would benefit the entire profession. Collective investigations of new drugs and preparations both pharmaceutically and therapeutically might be undertaken in which both professions could take part. The manufacturing houses might be invited to join in this work, by establishing scientific departments for original research, and members of these departments invited to join in these conferences. By means of a common object, harmony would be secured between all concerned. The result of such coöperation in promoting progress in our knowledge of drugs upon the next revision of the pharmacopeia can easily be conceived. The next move of importance would be the abolition of the proprietary system as applied to medicine. The existence of the proprietary system as a legal factor seems to be due to a misunderstanding of the patent and trade mark laws, not only by pharmacists and physicians, but by the courts as well. That such a misunderstanding exists will be apparent on considering the verdict of the House Committee on Patents on this important matter.

A few years ago I accompanied a committee from the State Pharmaceutical Society of Delaware to Washington, for the purpose of asking the United States Congress to define a trade mark, and inform us in regard to its application. We were referred to the House Committee on Patents, of which the Hon. Benj. Butterworth was then chairman. After listening to our petition and considering the matter during more than two hours' debate, the following verdict was reached:

1. The registration of an alleged trade mark does not make it valid. Registration is merely to give notice that the thing registered is *claimed* as a trade mark. The validity of the claim can only be settled by the courts.

2. The proper use of a trade mark in no wise restricts the free use by others of the article of merchandise to which it is affixed. It confers on the user no privilege to the exclusive use of an invention of the kind conferred by the patent law, otherwise we should have the anomaly of laws diametrically opposing one another. The patent law grants to the inventor the exclusive use of his invention for a limited time, and then only on the publication of exact knowledge of the invention by a proper application for a patent, whereby the public may manufacture it when the patent expires. The use of a trade mark on the contrary, is unlimited in duration, and no publition is required when it is used on an invention.

3. The public has a perfect right to manufacture and sell any article of commerce not patented, and to do so under its proper or generic name whether a trade mark is used in connection with the article or not. For this reason courts have held that names describing articles can not be used as trade marks on the articles they describe. Otherwise the use of trade marks would be a hindrance to competition, while the proper use of trade marks promotes competition by distinguishing between one brand of an article and another brand of the same article, thus stimulating manufacturers to improvement in processes and methods of manufacture for the purpose of excelling each other in producing the same articles of a better quality and at a lower price.

4. While not constituting itself an interpreter of law, yet the House Committee on Patents as individuals, did not hesitate to affirm the position above described, and so instructed the Associated Press reporter who was present.

The question why the courts have so frequently made contrary decisions is not a difficult one to answer. There are several reasons to account for it. Judges, as well as doctors, often make mistakes in diagnosis, and one is not more infallible than the other. Again many cases of alleged infringement of trade mark have been decided against the defendants because of the element of fraud involved. It is manifestly unjust for the courts to protect an alleged trade mark when it consists of the only name by which an article (not patented) is known to the market, because, by so doing, the manufacturer is given an unfair advantage over the public in the making and selling of an article to which all have equal right.

On the other hand it would be rank injustice both to the manufacturer and the public to permit the counterfeitng of trade marks, labels and packages, to the injury of all parties concerned. The question that has been decided in most cases brought before the courts, has been whether the goods were counterfeit, not whether the alleged trade mark was a valid trade mark. In the "Syrup of Figs" case the question was decided on its merits, Judge Swan rightly maintaining that the name "Syrup of Figs" was either deceptive or descriptive. If the former the plaintiff had no standing in court, if the latter no infringement of trade mark existed.

The principle that underlies the subject, however, is the copyright or right to copy. The House of Lords, and following the precedent, the Supreme Court of the United States, decided that authors and inventors have no natural right, or right at common law, to prevent others from copying their respective writings and discoveries. The right, when it exists at all, is a creature of statute and of grant, and subject to the terms of the statutes and grants. The other side of the bitter controversy known as the "copyright war," claim that authors and inventors have a natural or common law right to their writings and discoveries, irrespective of the copyright and patent laws. Judges who believe the latter will naturally be influenced in their decisions accordingly, and may grant a protection never intended by our law makers.

But as one learned author truly said, if the right to the exclusive use of writings and discoveries is a natural right, then it exists forever, for who can limit it? Then the inventors of pens, ink, paper, and every article of commerce, ought to have been protected in their alleged "rights" for all time, and the same "rights" should have been continued to their heirs. This would have created an aristocracy that would have owned the entire property of the world in time, and the remainder of mankind would have been the slaves of those great monopolists. Either that or the

remainder of mankind, being in the majority, would have finally revolted, and put an end to the monopoly. And what is the use of a "right" if it can not be maintained?

If we are to have patented medicines, let there be appointed a medical board in connection with the patent office to see to it that the patent law is made to promote progress in science and practice, not to hinder it. Grant no patents except when new and useful articles are really invented, and do not permit patents on mere aggregation of old and well-known drugs, that any pharmacist or physician, with a proper knowledge of his art, would naturally devise in practicing his profession. And let there be an end to the registration as trade marks of the only names by which articles are known, for it creates and maintains perpetual monopoly and such monopoly is contrary to the very spirit of the American constitution.

The latest move by the proprietary medicine manufacturers is to prevent what they call substitution upon the part of the druggists. The recent action of the analin dye house of Bayer & Co., in relation to phenacetin, illustrates one phase of this. That house is undertaking what the *Chemist and Druggist* (an English drug periodical) calls a "monopoly crusade." Having registered the word "phenacetin" in Germany that house now proposes to force the entire world to recognize it as a trade mark, and to prevent other manufacturers from making and selling the article under the name, phenacetin.

The *Chemist and Druggist* says that "no rights granted to Messrs. Bayer & Co., by the German Imperial Patent Office can effect their claims in this country (England). Strange though it may seem, the British Patent and Trade Marks Act are not yet 'made in Germany,' nor is Britain as yet in the position of a tributary state to the Fatherland." But when one considers that the United States Patent Office granted Bayer & Co., a patent on phenacetin as a product, and recognized the word as a trade mark, it seems strange indeed that we did allow our patent and trade mark laws to be "made in Germany" and actually become tributary to a German analin dye house.

Now a word about that tribute. Phenacetin can be purchased in England for $1.25 a pound or thereabouts, but in the United States we are forced to pay $16.00 a pound for it. In other words we are paying a tribute of over fourteen dollars a pound to a German house or to its American agent for phenacetin, when we can import it, or make it in this country to sell with fair profit at about a dollar a pound.

If any pharmacist attempts to import phenacetin into the United States, he is at once arrested for smuggling. If he makes it for sale he has a law suit on his hands for infringement of patent. He can not offer for sale any phenacetin except that of Bayer & Co., without falling into the clutches of the law. Of what law? Of the law of the United States which ought to protect American citizens, not foreign as against American interests.

Are these our patent and trade mark laws? Either the laws are not clear, or the fault is with the patent office and the courts; or possibly all are at fault. The fact that some of the best judges in America give decisions opposed to any such rendering of the law shows the confusion existing on the subject.

Now, what is substitution? Messrs. Bayer & Co. tell us that it is the use of any other brand of phenacetin in place of their brand of it. The druggist who protests against this outrageous monopoly, and attempts to furnish our patients with some other brand of phenacetin at a reasonable price, is guilty of substitution, and should be condemned by the profession as a criminal, according to the rendering of the law, and in that rendering every proprietary medicine concern in the world will say, Amen. That is no exaggeration, and before we condemn druggists for substituting where proprietary medicines are prescribed, we ought to understand what is meant by substitution, or we may find ourselves endorsing a scheme of which we may have cause to be ashamed.

Is phenacetin a trade mark? How can it be and yet be the only name by which the article is generally known? Is it not a proper and descriptive appellation of the article? It is an axiom in law that the descriptive name can not be a trade mark. As its proper or descriptive name we have regarded it, not dreaming for a moment that we thereby necessarily specified the brand of Bayer & Co., by using the name phenacetin in our prescriptions, thus endorsing a gigantic monopoly. This is our only excuse as physicians. We have been deceived. But let us be deceived no longer. Let us arise and demand that the true working forumla of every medicine we prescribe shall be published, and that phenacetin and every other preparation shall be provided with names free to all pharmacists under which they can be made and sold. Then if each manufacturer chooses to employ a fanciful "coined" word of his own devising as a trade mark thereon it can do no harm, for no monopoly of the product is engendered thereby, and competition will restrain the price within reasonable limits; while at the same time the trade mark will truly be what it was designed to be, viz., a protection to the public against counterfeits and substitutes.

The well-known names of the preparations now on the market have become by use descriptive and should be so regarded. I can see no objection to the use by Bayer & Co., of a fanciful designation as a trade mark on their brand of phenacetin if the true name of the article always appears on the label, and its use is free to all other manufacturers.

Laws against the adulteration of foods and drugs are excellent aids in helping along the common cause, if properly enforced. But they are calculated to do much harm if manipulated by politicians for personal ends. The same applies to a national law to prevent the transit of adulterated products from State to State. The proper enforcement of such laws would finally end in abolishing secrecy in medicine altogether—a most desirable end. The patenting of pharmaceutic machinery, processes and appliances, may not be open to serious objection, but locking up medicinal substances themselves to exclusive monopoly should never be permitted.

In my paper read before the Section of State Medicine last year,[2] I suggested a compromise measure for the purpose of permitting an inventor of a new and useful compound to retain the name and secret of manufacture of his invention for a limited time, provided the true working formula thereof be placed in the hands of a national committee of physicians and pharmacists, and the article marketed only under the sanction of the committee. I suggested that the system remain as it now is, only with the exceptions that a censorship shall be exercised over the market by a committee of

2. The Proprietary System and Its Remedy. JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Sept. 14, 1895, p. 450.

competent physicians and pharmacists, the monopoly to be limited in time, and the system to be made scientific by providing it with a proper nomenclature and by the final publication of every invention whereby all pharmacists may manufacture the same when the patents expire.

I also suggested that every manufacturing house open a scientific department manned by competent physicians and pharmacists, who can be held responsible to the profession for their utterances, and for the representations made by respective houses in labels, in circulars, in advertisements, and in contribution of these houses to scientific literature.

Now as to the complexion of the committee. I suggested that it consists of one member each of the AMERICAN MEDICAL and American Pharmaceutical Associations, and one member each from the medical department of the Army, Navy and Marine Hospital service, to which might be appropriately added as Chairman the Commissioner or Secretary of Public Health, if such an office is finally created by Congress.

Commenting on this compromise, Dr. Henry D. Holton in his Address on State Medicine, delivered at Baltimore, May, 1895, said: "The question of proprietary medicine which interests every family of the land, is an evil which in spite of the continuous maledictions that have been hurled against it by all scientific medicine, both as organizations and as individuals, has continued to thrive, until at the present time it is intrenched behind millions of money and is held in high esteem by the people because of its ability to hide its worthless character or possible dangerous combination behind a trade mark. If the manufacturers of these nostrums were obliged to deposit with the Public Health Department, under certain restrictions, as suggested by Dr. Stewart, the formula from which they are prepared, it would do more to eradicate this stupendous swindle from the land than all the fulminations that could be hurled at it for centuries; it would have an equally elevating effect upon the science of pharmacy which is so indispensable to our success."

The following excerpt from the President's address, delivered at the annual meeting of the Pharmaceutical Association of the Province of Quebec, held in Montreal, June 11, 1895, contains in a nutshell a great deal of truth in regard to "patent" medicines and also suggests another plan for curtailing their sale:

"Patent medicines are a curse to the physicians, the pharmacists and the public. They are an unjust and direct opposition to the physicians by preventing the sick from obtaining proper advice; they deprive the pharmacist of the sale of his own preparations, and force him to keep in stock a large number of preparations which have only a limited sale, and they are injurious to the public which allowing itself to be cajoled by the certificates of cure which are the compliments of the advertisement, purchases the famous remedy which oftener does more injury than good."

"We should have in this country, as in most European countries, a commission composed of physicians and pharmacists. All demands for copyrights or patents for medicinal preparations should be submitted to this committee, with the formula, and after examination a report should be made to the government recommending or rejecting the demand. This would diminish the number of patent medicines, and the public would know that those the sale of which was allowed, would be of superior quality and incontestable value."

The introduction of a line of simple household remedies bearing the true formula of each preparation on the label, to be used in place of secret nostrums, would be a step in the right direction. Such a line might be added to the National Formulary. The adoption of the United States Pharmacopeia and the National Formulary as a text-book in all medical and pharmaceutic colleges would certainly do much to elevate medical and pharmaceutic practice and cause all parties to adhere more closely to recognized standards.

In my paper, read before this Section at the Milwaukee meeting, in 1893, I suggested that a laboratory be established in Washington for the purpose of investigating the materia medica of the world under the auspices of the Government. The paper was well received by the AMERICAN MEDICAL ASSOCIATION and a memorial was sent to the U. S. Congress praying that the plan be carried into effect.

It has also been proposed that a National Department of Public Health be created, and a Secretary of Public Health be added to the President's Cabinet.

Now all these suggestions have merits and objections, and the same may be said concerning any plan that can be devised by human ingenuity. In considering these plans it may be well to refer for a moment to the objections and the objectors. One class of objectors own stock in proprietary medicines. They may be divided into three classes, viz., proprietary medicine manufacturers themselves, stockholders in proprietary medicine corporations engaged in the practice of medicine and pharmacy, and professional men who either hold stock in the names of their wives or other members of their families, or whose wives have invested some of their own capital in the business. I have been met with objections from all three classes. Another class of objectors are always looking "for a nigger in the wood pile." No matter who reads a paper on the subject, they always insist that he has "some ax to grind." But it is time for us to rise above the level where self-interest and petty jealousy paralyze endeavor. Something ought to be done to check the demoralizing drift of the times.

This section was originally organized for the purpose of elevating pharmacy and therapeutics, and promoting progress in the science of pharmacology. It represents in delegate capacity the entire medical and pharmaceutic professions of the United States. I hope therefore that my paper may be honored by a full discussion and referred to a committee in which both professions are represented. And I hope this committee will formulate a set of resolutions worded in language that can be endorsed by the entire press of this country, medical, secular and religious, expressing the sense of the ASSOCIATION in regard to the true place pharmacy should occupy in its relation to medicine. It is not my object to attack gentlemen engaged in the patent medicine business or to cast reflections on any one. As business men, physicians, pharmacists, teachers, writers, journalists, we should all condemn the proprietary system because it hinders the progress of medical science and arts.

A series of resolutions formulated in the spirit of devotion to humanity which we are supposed to possess, as members of a learned and liberal profession, could not fail to meet the approval of all right-thinking men everywhere. Such a set of resolutions officially sent to the State and local medical and pharma-

ceutic associations would be of value in guiding physicians and pharmacists in their relation to each other and to the public at large, and if written in a spirit of fairness to all would do much in the education of the public to a higher appreciation of medical science and practice in both departments, pharmaceutic and therapeutic.

THE METHODIC DESCRIPTION OF A SURGICAL DISEASE.

BY EDMOND SOUCHON, M.D.

PROFESSOR OF ANATOMY AND CLINICAL SURGERY, TULANE UNIVERSITY, NEW ORLEANS, LA.

No art, no study has ever become a science until it had evolved its methods and its laws. The great effect and the use of these are to cover and govern a multitude of details which otherwise have to be remembered separately; also to facilitate the understanding between writers and readers.

Students sorely need a methodical guide to lead them in the intricate labyrinths of surgical descriptions, and yet those labyrinths are really only so because we lack the knowledge or the charts of their construction, or an Ariadne's thread which will be a sure guide in, through and out of the apparently innumerable turns and meanders. Upon close study it is found that in the diseased as in the healthy state nature's laws are less numereus, less complicated, more simple than we think, after we have succeeded in recognizing them, reading them, understanding them and remembering them.

Another object of this method is to assist students in remembering thoroughly, easily and intelligently; also how it is done and should be done. Although most likely and truly imperfect to the mind of many readers, the following description can not fail to assist the student of surgery; the thread may be coarse, may be made up of pieces, different materials tied together, but it is a thread none the less and as such most precious if constantly held in hand. The best of all methods or guides would be the one which all would agree to follow, however susceptible of improvement it might be.

The innumerable and complicated facts of surgical diseases can be better learned and remembered by adopting a uniform and rigorous method in their description. The guide should be inexorably systematic and always the same for each and every surgical disease. This may be dry, monotonous and hard but it will be of the greatest assistance to those who have to learn and to remember. Indeed all text-books on surgical diseases have almost the same great divisions and headings in describing a disease, but it is in the details and smaller things under those headings that the students need systematic and uniform assistance. It is to be borne in mind that the students of surgery who read a text book are to remember for ever all he reads; therefore, all superfluous words, remarks and dissertations had better be omitted so as to leave the the facts as simple and prominent as possible; but the guide must not interfere with extensive descriptions when deemed desirable. Students of ordinary intelligence can readily supply in their own minds connecting words and even sentences.

The guide describing a surgical disease should be followed more or less closely, according to the importance of the disease or of the facts connected with it. If some facts are of no importance they should be skipped and stress should be laid up on those facts only which present a practical bearing or scientific interest. It is essential to follow the guide systematically, as one fact is so intimately connected with the following one that the place where to say it can not very well be altered without disturbing the harmony of the whole. There is a place for everything and everything should be said in its place. We should say at the beginning what belongs there and not say it in the middle of the description. Again, we must say in the middle of it what belongs there and not say it at the end. It is most discouraging to read a fact concerning the prognosis, for instance here, then another a few lines further and a third one a few lines further again, separated by facts relating to symptoms, cause, etc.; instead of saying together all that pertains to prognosis where it should be said.

It may seem difficult and complicated at first, but after the guide has been committed thoroughly to memory, so as to have it at the tongue's end without hesitating to think, it will be seen how smoothly it works and how much it will assist. It is impossible to forget or skip anything as every few words almost in the guide call for an answer at its proper place, which answer is easily remembered by one who has studied the disease two or three times with this severe system and training. Students in surgery must learn how to spell, read, write and remember surgery as children learn how to spell, read, write and remember the language they speak.

According to cases, the course of the whole description or of a part of it only may be changed or inverted, but this should be done as seldom as possible so as to preserve the general application and utility of the method, even at the cost of a little apparent awkwardness, which will disappear with time and custom.

The order of description may jar against the present accepted ideas and some just objections will be made, some facts may seem to be forced in, but on the whole they are few and are fully compensated by other gains.

GUIDE TO DESCRIBE METHODICALLY A SURGICAL DISEASE.

(An ordinary or typical and uncomplicated case.)

We will first describe the guide or course to be followed in describing methodically a general surgical disease. The type adopted should be an ordinary or uncomplicated case. This means that all points and features which are not observed frequently in the disease should be left out, to be described with all other rare or exceptional points and features, with the forms, varieties and complications of the disease. This is very important as it relieves the description of many confusing and apparently contradicting statements which so harass and perplex students. Yet these points being often of importance must be studied, but by themselves and where the attention is laid on them with all profit.

The description should begin by the *synonyms* or various names of the disease and their *etymology*.

The History is often most interesting as showing the efforts required to bring the knowledge of the disease to the present state. When possible it should be divided into periods marked by, and named after, the great steps which have characterized positive progress. The names of the investigators and writers must be given with the date of their contributions and the points or features they have specially investigated and

cleared. It is but sheer justice to the pioneers who have contributed to build the knowledge from which we are now deriving reputation and profit. This teaches the reader and student that by thus profiting by the labors of their predecessors they are incurring the obligation to make efforts to contribute themselves to the common stock for those who follow.

The definition of a disease is described after its cause or its pathology, its symptoms, course, duration, termination, prognosis, or after several of these features combined.

The frequency should be described here in a general way, only, as this feature will often return in describing the causes, lesions, symptoms, etc. The division of the disease or subjcet into various parts is important if it is at all complicated. A general description should be made of all the points common to the various diseases and then each division should be described separately as a separate disease.

ETIOLOGY OR CAUSES.

The etiology or causes of diseases should be divided into the two great divisions, the external and the internal causes.

The external causes are all those originating outside of the patient. They comprise the following headings. The geographic, meteorologic and atmospheric causes include the mention of the effects of latitude, longitude, altitude, climate, seasons, rains, storms, changes, sudden or slow, of the effects of the thermometer, barometer, hygrometer; of the influence of day and night air, etc., as a cause of the disease. Telluric causes call for the description of the action of dry soil, damp soil, wet soil, marshy soil, defective drainage, sandy soil, clay soil, calcareous soil. Zymotic, microbic, infectious, contagious, epidemic, endemic, sporadic causes should be mentioned specially; also the presence or absence of parasites as causes. The physical causes or agents may be traumatic (blow or fall), or may be the action of direct heat or cold, or of dampness or of wet on the part diseased. Chemical causes or agents call for the statement of the action of the various gases, fluids, solids, metals or metalloids, organic substances susceptible of producing the disease. Hygienic causes or agents comprise the description of the effects of the various characters and conditions of the air we breathe, the water we drink, the food we eat, the clothing, the housing, and all such. Therapeutic causes or agents are those which cause serious disorders or real diseases by their action in overdoses, or in normal doses, but on subjects of peculiar susceptibility.

The internal causes include all those which are inherent to the patient himself. They comprise the following headings: Sex. Age: Congenitality, infancy, childhood, youth, maturity or manhood, middle age, old age and decrepit age. Races. Nationalities. Anatomic causes or peculiar conditions of the part as a cause of the disease; of the skin, connective tissue, adipose tissue, tendons, muscles, fascia, periosteum, bones, medulla, arteries, veins, capillaries, lymphatic vessels, lymphatic glands, nerves, organs special to the region. The side most commonly affected must be mentioned. The weight, the height, the breadth of neck, shoulders, chest at inspiration and at expiration, the abdomen, the hip. Physiologic causes include the effects of the constitution, temperament, idiosyncrasies, heredity (ascending, descending, collateral), trades, professions, habits, social condition, mental and psychic conditions (such as emotions, fright, antipathy, suggestion, grief, anger). Pathologic causes form the group of symptomatic diseases or diseases due to other diseases, directly or indirectly, *i. e.*, due to previous diseases, medical or surgical, of which the actual disease may be a sequel or a consequence, or to traumatism, or injuries, or surgical operations. These diseases may be of some of the organs or of the blood or fluids of the body (hematologic causes); each organ and fluid and its diseases should be reviewed and its effects noted as a cause of the present disease. Metastatic causes must be here mentioned.

All the above causes may be predisposing or determining; exciting, or instrumental, or controling, or final, or ultimate; efficient or not; or primary, or idiopathic; or secondary, or symptomatic.

For each cause we must state its frequency and degree of importance.

PATHOLOGY OR PATHOLOGIC ANATOMY.

The lesions of each stage should be described as those of a separate disease.

The lesions are macroscopic or microscopic.

The lesions of the main diseased organ must be first described; they comprise the following: 1, the description of the alterations of the normal physical characters, *i. e.*, of the size, situation, direction, mobility, shape; the alterations of the normal structure, *i. e.*, of the color, consistency, envelopes or coats, stroma, proper tissue (cells, fibers, tubes), capillaries; the alterations of the normal chemic composition of the parts (inorganics, organics). All these may be decreased, increased, perverted. 2, the alterations due to new pathologic products. These may be gaseous (traumatic emphysema in fractures without lesions of the air passages); they may be fluid, serous (edema, dropsy) or due to blood or pus; they may be solid or semi-solid (exudations or deposits of fibrin, fibrino-plastic lymph or matter, or false membranes); they may be new envelopes (where none existed before), new stroma, new cells and arrangement, new fibers and arrangement, new deposits (granular, fatty, calcareous, pigmentary, melanotic; germs; parasites), finally new capillaries and new nerve fibrils. 3, alterations due to new chemical elements, inorganics, organics; gases, fluids, solids, metals, metalloids, etc.

The lesions of the region, *i. e.*, of the neighboring organs, comprise the lesions of the skin, connective tissue, adipose tissue, tendons, muscles, fasciæ, periosteum, bones, medulla, arteries, veins, capillaries, lymphatic vessels, lymphatic glands, nerves, of the organ special to the region, if any. These we must describe as above, lesions of each stage, of the normal physical characters, etc. The lesions of the distant organs, or the organs at large, comprise those of the organs of circulation (blood and lymphatic system), respiration, innervation, urination, digestion, generation of special sense (eye, ear, nose, taste, skin). In each we must describe the lesions of each stage, of the normal physical characters, etc. For each pathologic feature we must state the frequency and the importance.

PATHOLOGIC PHYSIOLOGY.

Diseased organs have altered functions. The physiologic alterations of each stage should be described as a separate disease. The possible lesions are the

following: 1, the alterations in the normal characters of the physical or mechanical phenomena of the functions of the organ; these usually affect the movements or contractions of the muscular fibers; they are decreased, increased or perverted; 2, the alterations in the characters of the chemical and vital phenomena, or action of the peculiar secretions and excretions, which will be more fully described further; 3, the alterations by new or abnormal phenomena, which may be physical, chemical or vital; 4, the alterations in the functions of the region, *i.e.*, of the neighboring organs, which may also be physical, mechanical, chemical or vital; 5, the alterations of the functions of the organs at large, *i.e.*, organs of circulation, respiration, etc.; 6, the mode of repair or of reproduction of injured and lost parts.

For each phenomenon, state the frequency and importance.

SYMPTOMS.

The symptoms to be described are local, regional and general.

The local symptoms may be subjective, physical, functional.

The subjective symptoms are those felt by the patient only and which can not be detected by the surgeon; they consist in pain, sensations of heaviness, of heat, of cold, of pricking.

The physical symptoms are those detected by the sight, touch, hearing, smell, taste.

By the sight we detect and describe the general appearance of the part, its attitude, the muscular movements, the color, transparency, shape (form or deformity of the parts); the sphygmographic tracing of the part, of the pulse, of the heart; we make the comparison with other side.

By the touch and by palpation we detect and describe the temperature, the consistency, the presence of emphysema, crepitus, crepitation, fluctuation, mobility of the part, of pulsations with or without expansion, of displacement. By mensuration we determine and describe the changes in the normal length or breadth or circumference of the parts. By probing, the course, depth and bottom of a sinus and the presence of a foreign body. By percussion we detect and describe the presence or absence of resonance, the dullness, the absence of elasticity. By the exploring needle we determine the presence of a liquid, and of its nature by its macroscopic and microscopic examinations.

By the hearing or auscultation, we detect and describe the alterations in the character of the normal sounds of the diseased part, and the alterations due to new or pathologic sounds.

By the smell we may detect the alcoholic breath, the fetid breath of diseases of the mouth, throat and lungs, the fetid sputum, the odor of suppuration under a dressing, the odor of blood, of incontinence of urine, of fecal matter, of gangrene, of peculiar remedies.

The fluids or secretions, normal or abnormal, presented by the diseased parts, must be described (see description of a fluid, further), also the microscopic examination of the secretions or of particles of tissues (as described in pathologic anatomy). In some cases the condition of the blood must be described (as a fluid).

Tests with inoculations, with hypodermic injections, and graftings, with fluids or particles, before or after cultures, on the same subject or other subjects, or the lower animals, must be described as parts of symptomatology.

The functional symptoms are produced by the impairment of the functions of the diseased parts; they are physical or mechanical, chemical or vital, they are decreased, increased or perverted (as above). For each symptom state the frequency and importance.

The regional symptoms or symptoms presented by the neighboring organs are subjective, physical, functional, and should be described after the same method as explained above.

For each of these symptoms state the frequency and the importance.

The general symptoms are those presented by the facial expression, the general attitude of the patient; by the organs at large, organs of circulation, respiration, etc. They may be subjective, physical, functional; they must be described as above explained. For each of these symptoms also state the frequency and importance.

The symptoms of each stage of the disease must be described; they are also local, regional, general; and in each of these cases subjective, physical, functional. For each also we must state the frequency and importance.

The stages are the premonitory, the prodromic, the incipient or début; the developed or established state (as described above), the terminal stage, whose symptoms vary with the termination.

COURSE.

The course of the disease must be stated as suracute, acute, subacute, subchronic, chronic or long chronic, stationary. State the frequency and importance of each.

DURATION.

The duration must be described in considering the disease as a whole and then of each stage; state the most frequent duration and the duration of each stage.

TERMINATION.

The termination must be described as cure, stationary, chronic state, death. State also the frequency of each.

DIAGNOSIS.

The diagnosis presents the following parts to describe:

1. Enumerate the diagnostic signs by which the disease may be recognized; these are derived from frequency, causes, symptoms, course, duration; also from the effects of the treatment. State the frequency and importance of each. Pathognomonic signs must always be given precedence above the others.

2. Enumerate the other diseases resembling the disease under study.

3. Make the differential diagnosis between these diseases by comparing and weighing the importance and value of each sign in each disease (frequency, intensity, peculiarity).

4. Diagnose or establish the stage, the course, the duration, the tendency to termination without or with proper line of treatment, the form and variety, the complications.

5. The diagnosis may be a diagnosis by anticipation when animals are inoculated to determine the true nature of the supposed case and determine what is to be expected in the case of the patient who has been subjected to the same cause, as for inoculations in rabies and in tuberculosis with tuberculin.

6. The retrospective diagnosis, that is the diagnosis of the true nature of the disease with which a patient

has been affected, is based upon the clinical history and the sequelæ or consequences of the disease: spots, cicatrices, impairment of the functions, etc.

PROGNOSIS.

The prognosis must state the general prognosis of the final termination of the disease; of its duration; the possibility of relapses and of sequelæ; for each we must state the frequency and importance of each point.

TREATMENT.

The description of the treatment of the disease embraces the following points: The prophylactic and preventive treatment, the abortive treatment, the removal of the offending cause, the specific treatment, the curative, the palliative, the symptomatic treatment or the treatment of the symptoms, or treatment on general principles.

In each case state the means employed. These may be hygienic (diet, rest, etc.); they may be medical and remedial (medicines of all kinds); they may be surgical (topical or operative, of a minor or a major nature). The treatment may be by the mouth, by the rectum, by enema, by hypodermic injections, by intravenous injections. State the efficacy of each. The description of the treatment of each stage is indicated above.

RELAPSES, SEQUELÆ, CONSEQUENCES, RECURRENCES.

The description of relapses, sequelæ and consequences must be stated carefully; state also the frequency, causes, symptoms, course, duration, termination, diagnosis, prognosis, treatment, sequelæ and consequences of sequelæ, forms and varieties, complications of sequelæ, recurrences; in a word, describe them like separate diseases.

(*To be continued.*)

MEDICAL LONDON.

NOTES FROM MY SKETCH BOOK.

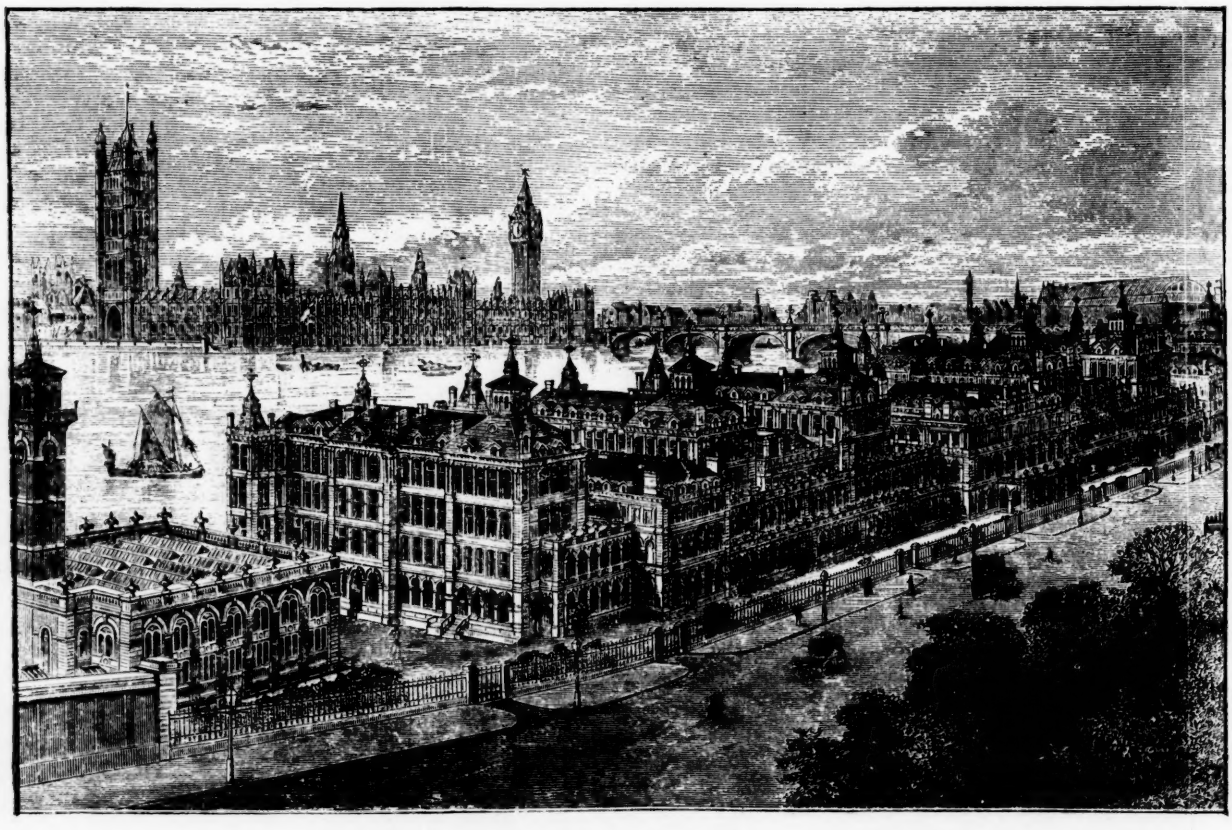
BY L. HARRISON METTLER, A.M., M.D.
CHICAGO, ILL.

It is demonstrably true that distance lends enchantment, for three thousand miles of ocean does increase one's transatlantic veneration. Europe and America are veritable El Dorados when viewed respectively from the opposing shores. The philosopher of Chelsea would have been less of a hero-worshiper had he been more of a traveler. Plato's Republic was a beautiful thing to dream of in the groves of the Academy, but out here in America it seems to have drawbacks that reveal many imperfections. A medical code of ethics is "a thing of beauty and a joy forever" until—well, until you discover your high-code neighbors underbidding for your patients. Medical matters are strictly scientific abroad, you fondly imagine, until you plant your feet upon foreign soil. London with its hundred and thirty or more hospitals is far from being the medical Elysium for everybody there, as we had foolishly fancied. The wail of our insular brother against *hospitalism* is quite as loud and lugubrious as our own. "Too many hospitals and too many dispensaries" is the first response of the unhappy practitioner, when asked to tell us something of medical London. And yet with all this hospital material, post-graduate education is not what it might be. Absence of governmental control and encouragement, over-intense individualism, and want of proper centralization are given as a few of the causes of the inferiority of London as a post-graduate medical center. As compared with Germany, laboratory teaching in England is sadly deficient. There are no endowments; there is no university teaching. There is abundance of hospital material, but it is not made use of as it should be. In the Poor-law infirmaries there are no less than 12,000 beds unused for the clinical teaching of the students. The same is true of many of the fever hospitals. All of which goes to show that medical matters in London are as much in need of readjustment as they are with us. The particular attraction for an American physician in the metropolis is the large number of special and general hospitals and the abundance and variety of clinical material that may be observed.

Every tourist, upon first arriving in London, sets out at once to visit Westminster Abbey and the Parliament buildings. As he approaches the end of Westminster Bridge, the view from which inspired Wordsworth to exclaim, "Earth has not anything to show more fair," he looks away across the river and immediately inquires about the magnificent row of buildings rising from the Albert Embankment, directly opposite the Parliament Houses. If he is a physician his interest will be quickened upon being told that those seven elegant, modern-looking structures constitute the famous St. Thomas's Hospital, an ancient Foundation by Richard, Prior of Bermondsey, in the year 1213, for Converts and Poor Children. In 1215 it was remodeled by Peter de Rupibus, Bishop of Winchester, for canons regular. Like other religious houses, it was surrendered to Henry VIII. in the thirtieth year of his reign, purchased by the citizens of London in 1544, and opened for the reception of patients in November, 1552, under a charter from the Crown. The ancient site of the hospital was in the borough of Southwark, at the southern extremity of the famous old London Bridge, near Guy's Hospital. In 1862 a railroad corporation bought the site and the hospital removed temporarily to Newington in Surrey. It was in 1868 that the foundation stone of the present magnificent edifice or edifices was laid with royal ceremony by the Queen. Her Majesty opened the hospital June 21, 1871. It contains about 600 beds and is prepared for the reception of all kinds of cases. Surgery receives special attention under its roof. The income of the hospital, derived largely from rents and donations, is about £45,000, but from this a large deduction has to be made, leaving about £33,000 for hospital purposes. The lover of the historical will find much to entertain him within a few steps of the hospital. Lambeth Palace, for six centuries and a half the city residence of the Archbishops of Canterbury, the famous Lollards' Tower and Prison full of sad memories, the Chapel, the gay and notorious Vauxhall, Bedlam, Astley's Amphitheater, Lambeth Ferry made famous by Macaulay in his description of the midnight flight from Whitehall of the Queen of James II and her infant son, and Vauxhall Bridge, erroneously associated with the name of Guy Vaux or Fawkes of the notorious Gunpowder Plot, are all in the immediate vicinity.

A few steps to the southwest of St. Thomas's stands the famous Bethlehem or Bethlem Hospital, vulgarly

called Bedlam. Even the general physician will visit this institution, if for no other reason than its remarkable history. Its name is derived from a priory of canons belonging to the Order of the Star of Bethlem, established in a monastery near Bethlehem, and caring especially for the sick and the insane. The badge of the order was a star worn on the mantle. The hospital was founded at the Dissolution, by Henry VIII., upon the endowments of a priory established by Simon Fitz-Mary, a sheriff of London in 1246, who gave to it all the land he owned in Bishopsgate Without, and there in Liverpool Street erected the first Bethlem Hospital. More correctly speaking it was a "dungeon house" for furious lunatics, whence it became popularly known as Bedlam. It was only large enough to contain sixty patients and it was the first institution devoted to the insane in England of which there is any record. In 1675 it was removed to Moorfields, where a building was erected to accommodate one hundred and fifty-two inmates. After many additions had been made to it from time to time, it was thought best in 1814 to change its site again and to erect the buildings which it now occupies in St. George's Fields, Southwark. The architecture of the main structure is imposing. Its cupola resembles that of St. Paul's Cathedral. The hospital now accommodates about 400 patients of both sexes, and it receives *gratis*, all poor lunatics who are likely to be cured within one year and who are not fit applicants for a county lunatic asylum. The better class of educated patients are preferred, and the treatment is along the lines of kindness and consideration. The women are provided with pianos, needlework, embroidery and knitting; the men with bagatelle and billiard tables, newspapers and periodicals. In 1888, 171 patients were discharged as benefited and 139 as actually cured. Such results were never obtained by the old restraining and torturing methods of treatment. The income of the hospital in 1888 was over £25,000. A small number of male and female patients are now admitted on a uniform payment of £2, 2s per week. The name of Bedlam used to be synonymous with all the horrors and tortures of the Inquisition. The complete change in the modern method of treating the wretched inmates, the employment of gentleness, kindness and persuasion with all the corresponding better results, have hardly yet sufficed to remove the odium attached to the name Bedlam. The earliest legislation in regard to the insane poor was in 1744, George the Second's time, when any two justices were given the power to arrest pauper lunatics found at large and to chain and incarcerate in "some secure place" within their parish of settlement. Up to this time enactments were made only for the custodial care of the insane considered too dangerous to be at large. They were allowed to overrun the country much to the annoyance ofttimes of the people and to the distressing neglect of themselves. Shakespeare avails himself of this state of affairs to enable Edgar in King Lear to assume a disguise:



ST. THOMAS' HOSPITAL, LONDON.

"Whiles I may 'scape,
I will preserve myself; and am bethought
To take the basest and most poorest shape,
That ever penury, in contempt of man,
Brought near to beast; my face I'll grime with filth;
Blanket my loins; elf all my hair in knots;
And with presented nakedness out-face
The winds and persecutions of the sky.
The country gives me proof and precedent
Of bedlam beggars, who, with warring voices,
Strike in their numb'd and mortified bare arms

Pins, wooden pricks, nails, sprigs of rosemary;
And with this horrible object, from low farms,
Poor pelting villages, sheep-cotes and mills,
Sometime with lunatic bans, sometime with prayers,
Enforce their charity."

Until a very few years ago the lunatics of Bedlam were one of the exhibitions of the metropolis. In Hogarth's "Rake's Progress" the last scene represents a number of fine ladies screening with affected prudery by means of their fans, a half-naked, fettered madman whom they have come to see. Henry Carey, an author who lived a century earlier and who wrote "Sally in our Alley," speaks of Bedlam as one of the most popular resorts. Once he followed, out of curiosity, a gay young cockney couple—such as Sally and her lover—through their day's festivities and noticed that the latter treated his sweetheart *seriatim*, to the following amusements, namely, "a sight of Bedlam, the puppet shows, the flying chairs (? swings) and all the elegancies of Moorfields." This exhibition of the insane, heavily manacled and chained, or kept in cages of iron, afforded Bethlem Hospital a considerable revenue in fees, down to the year 1770. To further add to the funds of the hospital in the olden time, partially convalescent patients, with badges affixed to their arms and known as "Tom-o'-Bedlams" or "Bedlam Beggars," were turned out to wander and beg in the streets. The practice was stopped, however, before 1675.

A short walk northeastward from Bethlehem Hospital brings one to the southern extremity of old London Bridge and the famous old Borough of Southwark. Who does not recall with dear old Chaucer

"That, in that seson on a day,
In Southwerk at the Tabard as I lay,
Redy to wenden on my pilgrimage
To Canterbury with devoute corage,
At night was come into that hostelrie
Wel nine and twenty in a compagnie."

and who does not remember Tooley Street where dwelt the three tailors who began their petition to Parliament with "We the people of England?" In this Borough the immortal Sam Weller was first discovered to the world officiating as "boots" at the White Hart Inn; here also stood the church of St. George's and the Marshalsea Prison so familiar to poor Little Dorrit. Not far away rises the church of St. Mary Overy, second in interest only to Westminster and containing the graves of the poet John Gower, of Edmund Shakespeare brother of the dramatist, of Fletcher, of Henslow and of Philip Massinger. Ah! but this is a famous old district and the medical tourist who is fond of historical memories and literary anecdotes will be sorely tempted to divide his attentions between Guy's Hospital, which lies in the heart of old Southwark and the other sights of the borough. Passing down St. Thomas's Street (named from St. Thomas's hospital that used to stand here) one soon comes in front of an old-fashioned archway and a row of old-time buildings. The hospital forms a hollow square in the midst of a noisy, odoriferous, bustling part of London and surrounds a quiet, well-shaded courtyard. It was founded in 1721 by Thomas Guy, the son of a lighterman at Horselydown, who became a bookseller in Lombard street and made a large fortune by printing and selling Bibles and by speculation in the South Sea Company. At first Guy gave much money to St. Thomas's hospital but he afterward bought (at a rental of £30 a year) of the government of that Hospital a lease for 999 years of the land on which he built Guy's Hospital at a cost of nearly £20,000. At his death he bequeathed to it £210,499. The testator's benefactions constituted the largest sum that had ever been given up to that time by any one person for charitable purposes. A very pretty way to ease one's conscience in the disposal of wealth obtained by the discreditable practice of purchasing the prize tickets of seamen at a large discount and subsequently investing them in South Sea stock! Soon after Guy's death, the executors procured an act of parliament, incorporating themselves and 51 other gentlemen, named by the founder, as president and governors of the hospital. At first the number of patients amounted to 402. In 1829 a further endowment was made to the hospital of nearly £200,000 by a Mr. Hunt of Petersham, thus making accommodation for 100 additional inmates. Other benefactors have bestowed about £10,000 more. Until quite recently the annual income of the hospital amounted to £40,000, but through the depreciated values of property and landed estates it is now scarcely £25,000. Nevertheless the expenditure for hospital purposes is £34,500. The wards contain some 600 beds. The out-patient departments are especially rich in clinical material and owing to the location of the hospital a large number of accident cases are received daily. The yearly average of patients received in the hospital is 3,000, while the out-patients that are relieved amount almost to 50,000.

Situated in the heart of an old, malodorous, thickly populated district of London, the dispensary work of this famous hospital interested me exceedingly. The hospital building consists of two quadrangles, with two wings extending from the front to the street. The west wing is quite elegant and uniform in its architecture but the rest of the edifice while regular is rather ancient looking. The courtyard might be kept in a little more attractive state with flowers and lawns, though the noble old trees give it an agreeable shade. The medical school associated with the hospital is one of the best in London and contains about 400 students. The anatomical museum especially awakened my admiration. It is unusually rich in specimens and its arrangement is unique, affording the greatest amount of facility for the study and examination of its contents. In the Chapel of the Hospital is an admirable statue of Thomas Guy in marble and the grave of Sir Astley Cooper.

St. George's Hospital, near the gay and fashionable Hyde Park Corner, was founded in 1733, contains 350 beds, has associated with it a very good medical school, and is chiefly interesting to visitors as the place where the renowned John Hunter practiced and died (1793). The London Hospital dates from 1740 and expends about £51,000 per annum in the relief of suffering. It contains 790 beds. There are many other hospitals deserving more than a passing notice, but those I have already mentioned are the most renowned and must suffice.

The practitioners of London have their offices in their residences, and usually upon the ground floor. They make less effort than we Americans do to adorn them with attractive hangings and luxurious furnishings. With crowded desks, piles of journals, charts, scientific apparatuses and other paraphernalia lying about, the offices of our London confreres have a distinctively professional and business-like appearance. The London medical man dislikes exceedingly

to talk "shop" outside of his office, whereas within his sanctum I have invariably found him full of medical chat and medical opinions. Certain parts of the city, notably in and around Cavendish Square, seem to be the favorite haunts of the medical fraternity. Here are to be seen many modern as well as old-time residences, upon whose doors hang many an old-fashioned brass knocker and ample brass plate bearing the legend "Mr. A." or "Dr. B." to indicate the home of the surgeon or physician. With proper introductions one will find the medical profession of London a most hospitable set of men. A morning call will be equivalent to staying and taking lunch with the whole family; an invitation to accompany your host to an operation will probably mean a drive to several hospitals with your generous host as guide and informant; a polite request to "drop in" upon a certain evening is an indication that you are expected to come in full dress and participate in a reception. The cordiality of our English cousins is shown by the invitations, programs, announcements of social events and society meetings that are poured in upon you during your stay in the capital. Many London physicians make a habit of keeping open house upon a special evening of each week. A table is set and the ladies of the household assist in entertaining. There is a fine *esprit de corps* amongst the London medical men, as is shown in many ways, but especially in the matter of fees. There is very little if any underbidding. Consultants are extremely considerate of those by whom they are called. An unusual courtesy is extended to one another, both in public and in private. Professional etiquette and gentlemanly demeanor are never lost sight of, as I had frequent opportunity to observe in the various medical society meetings and social relaxations.

At one of the meetings of the Royal Medical and Chirurgical Society which I attended, I was impressed with the comfortable furnishing of the apartment on Berners Street, the dignity and appropriate ceremoniousness of conduct, the courteousness yet freedom of debate, and the friendly sociability after the meeting had adjourned. In the middle of the well carpeted and heavily-draped room stood a great tall, old-fashioned stove in which blazed and crackled a cheering log fire. At the head of the room stood the throne-like president's desk, having above it a large shield ornamented with the royal arms. On either side were the desks of the secretary and treasurer. The readers of the papers and most of the audience, which numbered about fifty, were in full evening dress suits. Sir E. H. Sieveking occupied the chair, presiding in a most courtly and dignified manner. One of the papers was upon gastro-enterostomy, and as an American I was naturally much gratified to hear the author pay a high compliment to our American surgeons, especially to our fellow citizen, Dr. Nicholas Senn. He said that the latter had now made the operation so perfect that scarcely any more could be desired or suggested. The second paper was upon cicatricial transplantations and was most liberally illustrated with photographs and patients. After adjournment we all assembled in a neighboring room and partook of the light collation of sandwiches and coffee, which served to banish any stiff formality. This is a fair illustration of the average medical society meeting in London. One of the most active and interesting societies to attend is the British Gynecological Society, which holds its meetings fortnightly in a building in Chandos Street, near Cavendish Square. The gynecologists I found to be a pugnacious set of men and to be an observer of one of their fortnightly tilts is as exhilarating as to have been present, I presume, at a medieval tourney. What with the Clinical Society of London, the Medical Society of London, the Obstetrical Society of London, the Hunterian Society, the Harveian Society and a host of others, one need never be at a loss for a battle field whenever he may feel medically pugnacious while staying in London. He will always find there able combatants and strong bulwarks ready to entertain him.

4544 Lake Avenue.

REPORT OF A CASE OF PERIHEPATITIS AND PLEURISY RESULTING FROM INJURY.

Read by Title in the Section on Practice of Medicine at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY J. M. G. CARTER, M.D., Sc.D., PH.D.

PROFESSOR OF PREVENTIVE AND CLINICAL MEDICINE IN THE COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO; FELLOW OF THE AMERICAN ACADEMY OF MEDICINE, ETC.

WAUKEGAN, ILL.

The case which is the subject of this paper was that of a farmer's daughter of German descent, aged 15 years. She was in good health although rather under weight as compared with girls of her age, and had passed the period of puberty. Her parents were strong robust people.

On Sept. 15, 1895, she fell from a tree a few feet, 10 or 12, and struck her right side against a stone, receiving an injury which stunned her. At the time I saw the patient, two hours after the accident, the pulse was 130, respirations 40, temperature normal. The seventh and eighth ribs on the right side were fractured.

A bandage was put around the thorax, and remedies administered to secure rest. On the following day the pulse was 120, temperature 102 and respiration 30. Considerable tenderness was manifested over the liver and injury of that organ was suspected. The succeeding day all the symptoms were increased in severity. Perihepatitis was diagnosed. In a week icterus occurred. The symptoms were those of perihepatitis with disturbances of respiration especially marked. No points of peculiar interest presented and it was hoped that two weeks would see the case fully convalescent.

At the end of two weeks the temperature had not subsided; the pulse was 130, respiration 30. The skin was clear, bowels in good condition, but the urine was high-colored and contained indican in excess with some increase of urates. The ribs seemed to be united and the perihepatitis had apparently subsided. What could account for the continued elevation of temperature and rapidity of pulse and respiration? Careful examination of the right thoracic region had been made frequently but no marked evidence of pleurisy had appeared. Could it be inflammation deeply seated in or about the liver or an obscure pleurisy? A thorough examination was instituted to determine this point. Finally, I thought I could detect that there was a slight reduction of the clearness of the respiratory mumur. Believing I had to deal with secondary pleurisy, I placed the patient on appropriate treatment. The pulse, respiration and temperature remained high. In two days from time of

diagnosing pleurisy, the symptoms and physical signs were well marked, and the patient passed along as in an ordinary case of secondary pleurisy, the only peculiarity being a gradual increase in the rapidity of the pulse. At the end of ten days, October 11, nearly four weeks from the time of the accident I decided that it was necessary to remove the effusion. The family, objected. Tuesday she had a chill; the family consented to let me perform paracentesis. Wednesday, October 16, I operated removing two quarts of pus. All the symptoms abated and the chills ceased. The temperature fell to 99.5. The pulse, which had reached 160, dropped to 120 in the minute. Nov. 2, 1895, the temperature was 102.5, respirations 40, the pulse 150. I decided to operate the second time. I plunged a trocar and canula between the sixth and seventh ribs, just posterior to the axillary line. The first operation was performed with an aspirator; but as I wished to introduce a drainage tube, the second operation was performed as described. The trocar was withdrawn and the canula left in place. Three pints of pus were removed and a No. 7 (Am.) soft rubber catheter passed through the canula into the pleural cavity, under proper aseptic precautions. The canula was withdrawn leaving the tube in place. A safety pin was passed through one wall of the catheter, a string tied to each end of this and the strings held in place by strips of adhesive plaster. The temperature and rapid respirations abated at once and within two or three weeks both were normal and the pulse had fallen to 120.

Malt, cod liver oil and iron tonics were administered and she gradually improved. It was not until Jan. 2, 1896, that the pus ceased flowing and only one inch of the tube remained within the chest wall; the tube was removed and the opening closed antiseptically. The patient has remained well, but the adhesion of the pleural walls has left the right side smaller than the left and cause the right shoulder to fall considerably below the level of the left; improvement is noticeable however, and at the present writing (April) she has very little deformity.

GUNSHOT WOUND OF THE CHEST; REPORT OF A CASE; RECOVERY.

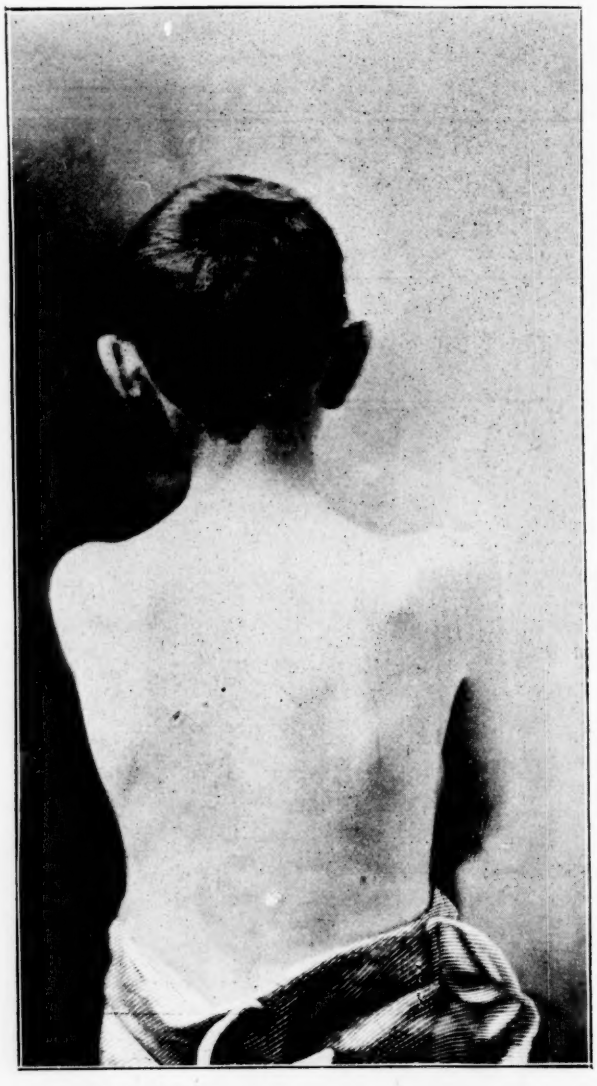
BY J. LUE SUTHERLAND, M.D.
GRAND ISLAND, NEB.

Fritz Thavenet, aged 9 years, by the accidental discharge of a small target rifle in his own hands, consequently at close range, was shot through the chest from front to back. The ball, a 22-caliber, conical, entered one inch below and one-half inch to the left of the tip of the ensiform cartilage and almost touching the costal arch at a point exactly opposite the costo-cartilaginous articulation of the seventh rib. It ranged upward, backward and a very little outward, emerged between the ribs, at the point shown in photograph,and lodged in the trapezius muscle from which it was easily extracted. A line drawn horizontally around the chest at this point is just four and one-half inches above the entrance wound. His condition one hour after receiving the wound was, pulse 84, respiration 26 and rather shallow; temperature not taken, but seemed to be slightly subnormal and there was a general pallor of the skin, but no vomiting; and when asked if he felt sick at the stomach replied, "not much." Hemorrhage was slight. Air escaped with a bubbling sound when the ball was cut down upon and removed. The first dressing consisted in rendering both wounds as aseptic as possible, loosely plugging them with iodoform gauze, covering with large thick pads of gauze and absorbent cotton and the application of a roller bandage around the chest sufficiently firm to slightly restrict respiratory movement. This dressing was not disturbed for twenty hours, during which time, and for forty-eight hours after, he was given nothing but liquids in very limited quantities, and he was kept in a recumbent position with

head and shoulders elevated. At the second dressing, the wound in the back was covered with fresh pads and allowed to close, but the entrance wound was cleansed and plugged at each dressing for eight days. His recovery was rapid and without event; the temperature at no time was above 100 F. and at the present writing, sixteen days from the receipt of the injury, he says he feels as well as ever, there being no pain or discomfort. The wound in the back is completely healed and the one in front, having been burned with the powder, suppurated a little and is not yet closed. He was permitted to be up on the fourth day, was out of the house the greater part of the time after the sixth day, came to town, a distance of over a mile, on the tenth day.

A study of the anatomy of the parts will show that it is possible that the stomach was not wounded, but the question naturally arises, where was the left border of the liver at this time? If either of these organs were wounded, notwithstanding the smallness of the missile, there certainly would have been symptoms indicative of the fact.

The apparent miraculous escape of the stomach from injury can be accounted for by an anatomical fact and a physical condition, viz: The patient being only 9 years old the natural position of the stomach approaches more nearly the perpendicular than it does in adult life; consequently instead of the superior curvature we have an irregular oblique line, the upper third of which lies to the left of the median line. In harmony with this in this particular case is the fact that his breakfast that morning was small, consisting wholly of wheaten pancakes, and as full four hours had elapsed before the shooting, stomach digestion had advanced to such a degree as to leave that organ almost empty, but whatever of its contents there was yet remaining, it was in the most dependent part and by its weight would thus aid in dragging the stomach downward, diminishing the size at the cardiac extremity, increasing its perpendicularity and carrying the entire organ toward the left, as the boy was standing at the time of the accident.



Taken in all its bearings it was a narrow escape between the stomach on one side and the left border of the liver upon the other. The descending aorta must have been uncomfortably near the track of the bullet also, not to mention other minor but none the less vital organs in the immediate region of the wound.

THE SILK LIGATURE IN URETHRAL STRICTURE.

BY J. D. THOMAS, M.D.

Professor Genito-Urinary and Venereal Diseases Western Pennsylvania Medical College, Medical Department Western University; and Genito-Urinary Surgeon to South Side Hospital.

PITTSBURG, PA.

Recently in operating upon a case of urethral strictures in conjunction with my colleague, Dr. H. R. O'Conner, at the South Side Hospital, we met with a difficulty somewhat out of the ordinary. The case was one of urinary fistula—the fistula opening upon the left side of the scrotum and due to the strictures. Beginning two inches from the meatus and involving the urethra from this point backward for the distance of another inch was a stricture that would admit nothing larger than a filiform ("a filiform stricture"). After the filiform was passed through this and into the bladder an opening was made in the perineum. An effort was now made to pass a tunneled Maisonneuve urethratome (No. 6 F.) over the filiform in order to cut the anterior stricture internally, but the stricture tissue was found so rigid that the shaft of the urethratome could not be made enter the lumen of the stricture with ordinary pressure. As a *dernier ressort* an attempt was then made to divulse the stricture by pushing the instrument with sufficient force to accomplish the object in view, but this proved a failure, for, instead of the Maisonneuve entering the stricture the penis (rather a small one) was simply crowded backward into the perineum. The filiform was now withdrawn and after the removal of the tunneled tip from the urethratome the regular screw guide was attached, thus giving the entering part of the instrument more of the wedge form, but with this change no better success was met with. This instrument again was removed, a filiform passed and the smallest tunneled instrument in our possession used, hoping to divulse or dilate sufficiently to allow the cutting instrument to pass. This, again, was a failure. It now suggested itself to me that to pass a silk ligature through the urethra the stricture might be sawed (Abbe's method for the esophagus) sufficiently to permit the urethratome to pass. This proved a success and was accomplished by tying a small-sized ligature around the bulbous end of the filiform, already in the urethra, and drawing the filiform with the thread out through the perineal opening. This left one end of the string projecting from the meatus, the other from the perineal wound, and by taking hold of these two ends and resorting to a sawing motion while an assistant made pressure on the under surface of the penis at the location of the stricture, we were soon able to secure sufficient room for the introduction of the Maisonneuve urethratome. The ligature was threaded through the tunneled end of the urethratome and utilized as a guide.

77 and 79 South Thirteenth Street.

SOCIETY PROCEEDINGS.

Twenty-Fifth Annual Congress of the Surgeons of Germany.

The quadricentennial "Chirurgencongress" was celebrated at Berlin in May with great festivities; among them we note a series of tableaux in the Opera House, representing the history of surgery in Germany. The Association formally adopted the proposition to coöperate in the formation of an International Congress of Surgery. The six opening addresses were all on subjects that have been created or revolutionized in the last two decades, and presented by the men who have contributed most, perhaps, to their development.

PROFESSOR BRUNS reviewed the

EVOLUTION OF THE MODERN SURGICAL TREATMENT OF GOITRE

from the time only twenty years ago when Lücke wrote that "Surgeons generally dread and avoid an operation" and the first tedious process of extirpation, requiring sometimes 200 ligatures, to the popular Billroth-Kocher total extirpation, an absolutely certain, bloodless and artistic operation. Then came the loss of life from cachexia strumipriva after these supposed successful operations. Bruns himself was the first to become convinced that the insignificant thyroid gland was after all an important secreting organ, and that the organism suffered severely when its secretions were withdrawn. In the revulsion that followed this discovery, an old method was revived, producing atrophy of the thyroid gland by ligating the thyroid arteries. This method not proving satisfactory, enucleation, attempted by Porta in 1840, was improved by Socin, and now comprises with resection and partial extirpation, the modern surgical treatment of goitre, varied or combined to suit individual cases, and no longer considered dangerous. In Bruns' 400 cases since 1883, the fatalities have only been 1½ per cent. with none in his last 150 cases. Partial extirpation is very frequently followed by a return of the goitre, but seldom to such an extent as to necessitate a second operation. Only a dozen cases are known in 800 operations (Socin, Krönlein, Kappeler, &c.). He considers therefore the present surgical treatment of goitre as eminently successful, but still more valuable is the thyroid medication, which has proved a prompt and certain cure for hyperplastic goitre. In 300 cases of goitre of various kinds, 100 were effectively relieved and the growth materially diminished. In another 100 cases the growth was only relatively diminished, but the accompanying troubles were relieved until an operation became unnecessary. Thyroid medication is also an invaluable preliminary to an operation, especially to enucleations and resections. It decreases the amount of blood in the region and effectively prevents hemorrhage. As was stated in an article in the JOURNAL, April 4, page 662, Bruns considers that the success of enucleations depends upon finding and enucleating the capsule without injury to the surrounding tissue. It is the standard operation in well developed cystic and nodular goitre, and it is indispensable in double goitre, where the remaining tissue must be carefully preserved. But it must be strictly avoided if the nodules are not distinctly separate from the surrounding tissue, or if there are extensive adherences. In such cases there is sure to be profuse and almost uncontrollable bleeding, and it is often impossible to complete the operation. Bruns' experience in 200 cases of enucleations was that the bleeding was scarcely noticeable in 70 per cent.; considerable in 20 per cent. and so profuse in 10 per cent. that the operation had to be abandoned. Post-operative hemorrhage followed in 8 per cent. Enucleation may also seriously affect the functions of the gland if the nodules are very numerous, requiring many ligatures. Resection is to be preferred in such cases. Hemorrhages can be controlled with it and sound tissue preserved, while the operation can be varied and modified in many ways to suit each case, leaving the hilus, the isthmus or the upper or lower pole as may be required, and combined with enucleations if necessary. Bruns concluded with the statement that the experiments he had been making on goitrous animals with Baumann have thrown some light on the finer processes which occur during thyroid medication.

PROFESSOR ESMARCH of Kiel, announced that his amputations of limbs and external genital organs were absolutely bloodless, owing to his

METHOD OF DRIVING THE BLOOD OUT OF THE LIMB AND PREVENTING ITS RETURN UNTIL THE OPERATION IS COMPLETE,

and the final bandage applied. He uses a thin bandage of pure brown rubber, winding from below upward, although linen or cotton bandages wound on dry, and afterward wet, will answer the purpose. If there is any inflammation or thrombosis, he first holds the limb in a perpendicular position until it grows pale. He arrests the arterial blood with a woven rubber bandage 5 cm. wide and 140 cm. long, strong enough to compress the femoral artery in the most muscular man to such a degree that no blood can flow into the limb, fastening it with a buckle. He restricts the use of the rubber tube he invented for this purpose to operations on the scrotum and penis, and to exarticulations of the hip and shoulder joints or amputations below them. After an amputation the larger blood vessels are seized with the torsion forceps and ligated. After the wound is closed and a well-fitting, firmly compressing bandage applied, the limb is held perpendicularly and the elastic bandage rapidly removed. The patient is then placed in bed with the limb still held in this position for fifteen minutes longer, when it is lowered to a horizontal position, and there is usually no question of hemorrhage. If the bandage over the wound has not been properly applied it may be stained by blood trickling through, but this can almost always be stopped by a pad of cotton laid over the place, held firm with a rubber bandage if necessary. In the majority of cases the blood that exudes is found later when the permanent bandage is removed, in the form of a thin narrow red strip lying over the healed wound. No knowledge of anatomy is required to wind up a limb with an elastic bandage like this, while considerable skill is required to apply a tourniquet so as to do good and not harm, which is the great advantage of the former in cases of traumatism when unskilled hands render the first aid. Many lives have already been saved by them, and especially with the elastic suspenders Esmarch invented and described at the time the Czar Alexander II. died from this cause. Many operations on the internal organs, the uterus and rectum, have been much facilitated by this method of driving the blood from part of the body to another, and it is in itself a cure for certain aneurysms (W. Reid), for pseudoarthrosis (Helferich, Dumreicher), for local tuberculosis (Bier), for snake bites (Fayrer) and it prevents death from excessive hemorrhage by autotransfusion, sending the blood back to the heart (P. Muller).

PROFESSOR WÖLFLER reviewed the history and achievements of

SURGERY OF THE STOMACH AND INTESTINES

in a comprehensive address. He said of the Murphy button that it would certainly be exclusively used if it were not for the objection that the side anastomosis can not be made deep enough on account of the swell of the button, and that there is danger to the organism from the presence of an unresolvable foreign body. He consequently advises Winiwarter's method of side apposition of the separated and closed ends of the intestine, as his own experience with it has been very favorable. The union secured is the strongest and most perfect we have. He recommends Madelung's needle for suturing and adds that all agree that as broad spaces as possible should be left, the stitches taken in sound tissue, and the mucous membrane included in the suture, while the special resistance of the submucosa must be borne in mind. The statistics of resec-

tion of the intestines are 39.5 per cent. mortality in total of cases; or 42 per cent. in 85 resections during 1875 to 1888, and 36 per cent in 161 resections during 1888 to 1895, which shows an improvement of 6 per cent. during the latter period. Examining these statistics we find that out of 221 resections, 84 were of the small intestine, with a mortality of 30 per cent.; 69 were ileo-cecal resections, with a mortality of 42 per cent., and 81 resections of the colon, with a mortality of 49 per cent.—the proportion of successes diminishing with the length of the mesenterium. Beside these figures Körte has had no fatality in 9 cecum resections and Czerny only one in 8 cases. The figures of resection with artificial anus are 78 cases, with 78 recoveries. Goetz reports 68.2 per cent. recoveries in 71 cases, and another report mentions 63 per cent. cures in 127 cases. Resection for tuberculosis of the intestines shows 73 per cent. recoveries in 34 cases, 65 per cent. cured in 20 cases of cicatricial stricture, and 46 recoveries in 114 resections for neoplasms of the intestine. The mortality was greatest, 54 per cent. cases of carcinoma, and least with artificial anus. Rydygier reports a mortality of 23 per cent. in 17 resections for chronic intussusception. The favorable results obtained in local or subserous tuberculosis of the cecum are worthy of note, the operative mortality being only 8 to 10 per cent. Many surgeons report the permanency of the cure effected, some of their successful operations dating from one to seventeen years, most of them cases of carcinoma. Equally promising are the reports of recovery without relapses in tuberculosis of the cecum, dating from one to five years. The classic method of resectio pylori is practiced with increasing success by the most experienced surgeons. Some prefer the Kocher modification, which implants the duodenum in the stomach, instead of the circular union of the open ends. It is still to be seen whether this is a permanent improvement over the old method. The operative results of resectio pylori have improved so much lately that there is no longer any discussion as to the relative merits of this operation and gastroenterostomy. The indications for each are entirely different, but resectio pylori lengthens life more than the other, even when a relapse occurs. Wölfler's statistics include the experience of fifteen operators beside himself. In a total of 92 cases of resectio pylori the mortality was 56.4 per cent. From 1888 to 1896 the percentage was only 21.2 per cent in 173 operations. This favorable showing is due to the fact that some of the operators, Kocher, Krönlein, Gersuny and Mikulicz secured immediate recovery in 84.75 per cent. of their cases. Resectio pylori on account of cicatricial formations has a more favorable showing than the cases of carcinoma—10 per cent. The proportion between them is as 25 per cent. to 31.9 per cent. It is interesting to know that the cicatrix formed at the pylorus after resection assumes the function of the physiologic pylorus, as Rosenheim has demonstrated. Also that the motor function is improved in carcinoma, while the secreting function of the mucous membrane is not improved. It would be of great service in forming a final opinion on this subject to learn the experience of those patients whose digestion has continued good for years after resection of the stomach. As to the permanent results, it is established that patients operated upon for carcinoma of the pylorus have survived many years in undisturbed good health. I find twenty-four cases on record where patients have lived from two to eight years afterward. Time has restricted the indications for resectio pylori and enlarged the scope of gastroenterostomy. All are in accord in regard to the suture in the latter; the only question is the entering point. Some, like König, Hahn, Lauenstein, cling to the original method, gastroenterostomia retrocolica (Hacker's). The immediate results of each are about equal, 45 to 42 per cent. If in gastroenterostomia antecolica a loop of the small intestine with a long mesenterium is taken, the colon is not compressed and the contents of the stomach will not escape. This also prevents the formation of the dreaded spur. When the front wall of the stomach is diseased, or the mesenterium of the small intestine is too thin, the Hacker or Brenner method is to be preferred. It is impossible to decide at present which is to be the operation of the future, the retrocolica or the antecolica. The results of gastroenterostomy reported up to 1888 show a mortality of 55.6 per cent. in the 45 operations (against 56.4 per cent. in resectio pylori). Since 1888 the mortality in the 219 operations has been 36 per cent. (against 31.2 in resectio pylori). The mortality in 195 cases of carcinoma was 30 per cent. Without cicatricial formations 20.9 per cent. in the last eight years. But single operators have secured much more favorable results than this.

Cases of carcinoma in which the stenosis appears early and death is imminent, call for a prompt operation, and Wölfler described several cases where he had relieved patients actually at the point of death from starvation, and restored them to their usual occupations for 1½ and 2¼ years afterward. Any one who has witnessed the gratitude of such a patient will never abandon gastroenterostomy. As is generally known it produces a normal chemic action of the stomach in cases of benign stenosis, and conduces to permanent recovery. The results of entero-anastomosis (Maisonevue-Hacker operation of incomplete scraping out of the intestine), stand in the same proportion to those obtained in resection of the intestine, as the results of gastroenterostomy to resection of the pylorus. The most conservative treatment of stenosis of the pylorus or intestines is evidently plastic surgery. In Wölfler's collection of 50 cases the mortality is only 26 per cent. There are no reports on record of relapses. Unfortunately its application is limited, as the rule is inevitable here too, that the stitches must be taken in sound tissue. The last ten years have also seen much improvement in the lesser operations on the stomach and intestines. A better and more easily closed fistula is produced now in gastrotomy, partly because we make it smaller, but principally because we have transformed it into a canal opening upward and easily closed. (Witzel, Frank). As a consequence there can be no question now of opening the stomach a second time. The immediate results have also become much more favorable. Mannaberg states that the mortality from 1849 to 1883 was 66.7 per cent. in 162 cases. From 1883 to 1886 36.9 per cent. in 111 cases. The mortality from cicatricial stenosis of the cardiac orifice of the stomach is much less, and Wölfler's own experience has been that these figures are too high, and he believes that the next few years will see them very much reduced. In regard to colostomy the progress has been that now, instead of the tedious lumbar colostomy we make colostomia iliaca, and divide the intestine obliquely (Madeling and Schinzinger, 1881), or in some other way ensure that the part leading to it is separated from the part leading away from it, while we keep the opening of the latter open (Maydl) by scraping and draining the rectum in the modern sense of the term. The part leading to it must be continent of course. There does not seem to be much difference between the results of intra or extra peritoneal colostomy. Both show less operative infection as methods improve with time. Up to 1877 the mortality was 42 per cent; to 1887 29 per cent. and to 1895 27 per cent. The experience of 120 years with colostomy in cases of carcinoma shows that 18 persons survived three to six years, 28 lived three years, 43 lived two years, and 36 died within eleven months of the operation, out of 120 cases collected by Bryant. The farther down and nearer the rectum that the carcinoma is located the longer the patient survives. Wölfler dismissed jejunostomy with the remark that it was yet too untried for a final judgment, but that it was indicated in certain forms of stenosis of the pylorus and cardia.

PROFESSOR LANGENBUCH, "the inventor of cholecystectomy," terminated his sketch of

SURGERY OF THE BILE SYSTEM,

with the suggestion that the arteria mesenterica superior should

be ligated in operations on the liver, as ligating the portal vein produces a congestion of the intestinal walls that may lead to collapse and death. It is easy to find the strongly pulsating artery by lifting the colon and pushing the small intestine to the left, when it will protrude between the pancreas and the small intestine. It is also advisable to ligate this artery as a preliminary measure to ligating the artery and veins of the liver.

Among the numerous other speakers was König, "Tuberculosis of the Joints;" Sonnenburg, "Appendicitis" (with a record of 200 operations); Kehr, "Surgery on the Gall Bladder" (record of 200 cases operated); "Jürgens on his discovery of the "Sporozoa of Certain Kinds of Sarcoma," with which he has successfully inoculated animals, in spite of the difficulty that sporozoa will not develop on the usual mediums, and Angerer on the "After-results of Thiersch's Extirpation of the Trigeminus; twenty-six cases." In sixteen cases, four years have passed since the operation, seven have been permanently freed from pain, there were seven relapses, while three required a second operation. Krause's intracranial operation is indicated if the pain continues after the trigeminus is extirpated. Angerer recommends extirpating the sound branches also as a preventive measure. Helferich advises extirpating the nerve as far in as possible, as the central end is the one affected, and warns against allowing the nerve to escape from the forceps. He mentioned a desperate case in which he had performed a Krause operation on the Gasserian ganglion with success. Krause added that more than half of the cases of nerves extracted terminated in a relapse, and he believed that fully as good results were attained by simple section or resection as with the Thiersch operation. It can also be resorted to later if necessary.

Professor Hasse described his successful treatment of inoperable carcinoma with parenchymatous injections of alcohol. In four cases declared inoperable by eminent surgeons he had extirpated the breast and then prevented relapses with his injections of alcohol, securing complete recovery.

Mitchell District Medical Society.

Meeting held at Shelbyville, Ind., June 29 and 30, 1896.

Dr. Edmund Andrews of Chicago, the President, in the chair. In the absence of the Secretary, Dr. Geo. W. Burton of Mitchell, Dr. J. W. Rucker of Shelbyville, was made Secretary *pro tem.*

The first three papers on the program were read and discussed together. The first by Dr. J. A. Thompson of Cincinnati, was a scientific but clear and practical paper on "The Diagnosis and Treatment of Acute Purulent Otitis Media." The writer opposed the use of leeches and the ordinary methods of irrigating the ear, favoring incisions in the tympanic membrane and packing the canal with iodoform gauze.

The next paper, by Dr. F. C. Heath of Indianapolis, was a brief statement of the peculiarities of "Influenza Otitis" and some remarks upon its treatment. Dr. Max Thorner of Cincinnati, then followed with an instructive paper on "Serious Complications of Suppuration of the Middle Ear." He showed that from one-third to one-half of all brain abscesses are of otitic origin. Among the other complications mentioned were sinus thrombosis, meningitis, caries, necrosis, hemorrhage and the general cachexia from a protracted suppuration.

The discussion was opened by Dr. Dudley Reynolds of Louisville, who opposed the use of water, leeches, hot or cold applications, favoring peroxid of hydrogen, paracentesis, politzeration and the internal use of the salicylates.

Dr. Thompson in closing defended his method of incising the membrane. Dr. Heath held that the satisfactory results obtained more than justified the use of water, leeches, hot and cold applications and other measures advocated in his paper His position was endorsed by Dr. Thorner, who also showed that incising the membrane may carry infection into the middle ear, an epidermal surface being extremely difficult to disinfect.

Dr. J. G. Sherrill of Louisville, presented the subject of "Intestinal Anastomosis." He favored lateral anastomosis by means of the clamp devised by Dr. H. H. Grant. Its advantages are: 1, no change in the direction of the fecal circulation; 2, no foreign body; 3, less danger of contraction of the gut; 4, nearest to the natural method of repair; 5, means of performance always at hand.

Dr. Eastman of Indianapolis, expressed his preference for end to end anastomosis, using iron-dyed silk in the Czerny-Lembert suture.

Dr. Hall of Cincinnati, thought the method advocated by the essayist better than the Murphy button in emergency work and less likely to cause impaction. As to suture he would use catgut, running stitch.

Dr. Ransohoff of Cincinnati, had lost several cases with the Murphy button and while they were bad cases and might have died under any method, he believed the button was a foreign body and likely to cause obstruction.

Dr. Matthews of Louisville, believed the tendency was now toward lateral anastomosis and that Dr. Grant's method was sure, clean and easily learned.

Dr. Katto of Decatur, Ill., spoke of a method of end to end anastomosis by invagination.

"The Necessity for Opening the Cranium after Injuries Producing Coma and Convulsions," was the subject of a paper by Dr. W. B. Fletcher of Indianapolis. He exhibited a number of calves' brains and skulls, showing lesions principally at the base of the brain from blows on the top of the head and marked shattering of the inner tables of the skull where there was little evidence of injury outside. The paper was discussed by Drs. Reynolds, Parsons, Sherrill and Ransohoff, who cited cases confirming the writer's statement's.

Dr. S. C. Ayres of Cincinnati, presented a thoughtful paper on "Artificial Ripening of Cataract." His method is trituration of the cornea with the smooth-rounded handle of a Graefe knife, previously moistened with Pavy's solution.

Dr. Reynolds feared injury to cornea by this method and preferred applying a needle directly to the lens. He claimed good results however in extracting immature cataracts.

Dr. Rice of Indianapolis, objected to the method of Dr. Reynolds as liable to cause sympathetic ophthalmia. He said that Fuchs had shown that contact was all that was necessary, the essential thing being separation of fibers of the lens to allow infiltration of aqueous or vitreous. Dr. Ayres in closing said that there need be no fear of injuring the cornea if the method he advocated was carefully carried out.

A case of gallstones was reported by Dr. Edwin Ricketts of Cincinnati. The main point in the discussion was as to their location, Dr. Eastman contending that they were always in the cystic duct while Dr. Ricketts held that they were found, occasionally at least, in the common duct.

In the evening a very enjoyable reception was given by the Shelby County Medical Society. It was attended by a large number of the citizens.

At the morning session, second day, President Andrews read his address on the

new weapons in war and their effects on military surgery.

He showed that the new smokeless powder is effective at greater distance than the old. The guns are far more destructive. All open ground can now be swept with a storm of bullets. The famous old charges of cavalry and infantry can never occur again. The new tactics require thinner and longer lines. Each company has men trained in first aid to the wounded. The surgeons' camps and field hospitals must be

in gorges, hollows and behind hills to avoid the long range guns.

There are new difficulties in bringing up ammunition as well as disposing of the wounded. The question of antisepsis and asepsis is a grave one. The dependence must be on hot water, granite pans, rubber pouches, sublimated gauze, etc. The paper was briefly discussed by Dr. A. W. Brayton of Indianapolis. Following this, DR. JOSEPH RANSOHOFF of Cincinnati read an essay on "The Radical Cure of Umbilical Hernia by Omphalectomy." Four cases were reported operated on within the year without recurrence, up to date. The salient features of the operation proposed are excision of the ring, suture of the recti and buried metallic sutures. This paper was brief, clear and well received.

Under the title "Credulity and Skepticism in Medicine," DR. W. G. MCFADDEN of Shelbyville vigorously opposed the general use of new remedies until their true qualities were proven by those using them in hospitals, and censured the over-zealous gynecologists. In the discussion by Drs. Culbertson, Ricketts, Sterne, Reamy, Reynolds and Hall, issue was taken with the author, especially by the gynecologists.

In the afternoon session DR. W. M. CATTO of Decatur, Ill., reported twelve cases of "Puerperal Eclampsia" seen in fifteen years, about one to every 150 confinements. Most of these recovered. The treatment advocated was elimination by bleeding, purging, diuresis and diaphoresis.

DR. REAMY opposed bleeding as dangerous treatment and advocated veratrium viride as safer and as effective. DR. C. K. BRUNER of Greenfield reported his experience with veratrium, confirming Dr. Reamy. In closing, DR. CATTO said he feared the drug more than the lance. The following paper was also read: "The Value of Certain Therapeutics in Functional and Organic Diseases of the Nervous System," by DR. CURRAN POPE of Louisville; "Cerebral Arterio-Sclerosis and Its Relation to Apoplexies," by DR. A. E. STERNE of Indianapolis; "Treatment of Typhoid Fever," by DR. J. C. CULBERTSON of Cincinnati; "The Similarities between Albuminuria and Glycosuria" by DR. GUIDO BELL of Indianapolis, and "Nicotin Amblyopia," by DR. R. C. HEFLEBOWER of Cincinnati.

The election of officers resulted as follows: President, Dr. Samuel Kennedy, Shelbyville, Ind.; vice-president, Dr. J. Garland Sherrill, Louisville; corresponding secretary, Dr. J. W. Rucker, Shelbyville; permanent secretary, Dr. Geo. W. Burton, Mitchell; chairman program committee, Dr. F. C. Heath, Indianapolis; executive committee, Dr. S. C. Ayres, Cincinnati, Dr. Thomas J. Whiting, Nokomis, Dr. Dudley S. Reynolds, Louisville, Dr. F. C. Heath, Indianapolis, and Dr. A. J. Banker, Columbus, Ind.

British Orthopedic Society.

This society met at Birmingham, Eng., on May 30, 1896. The New General Hospital, the General, the Children's and the Royal Orthopedic Hospitals were visited by the members.

MR. WM. THOMAS showed cases of congenital torticollis, severe lateral curvature in a male adult, congenital abscence of metacarpus and phalanges, double congenital displacement of the hip and talipes treated by tarsectomy.

DR. WARDEN showed a case of partial abscence of the fibula, marked lateral bending of the tibia, associated with congenital talipes valgus.

MR. E. LUKE FREER brought before the meeting a case of double congenital talipes equino-varus which was successfully treated by tenotomy, wrenching and manipulation. He also showed a case of rhachitis adolescentium. The girl was aged 16 years and had been under his care for severe genu valgum when 4 years of age, and had worn instruments for four years with no material improvement. A double osteotomy was then done and she continued to wear supports for three years more. Mr. Freer then lost sight of her for eight years and a few months since she was brought to him again in a condition of pronounced genua vara. He also showed a case of knock-knee which had been treated by osteotomy, and another case of very severe congenital talipes equino-varus.

The above cases were discussed by Mr. Keetley, who stated that in his opinion Mr. Thomas' case of lateral curvature in the male adult was probably due to sciatica. Mr. Openshaw referred to cases of congenital dislocation which had been under his care in which he had operated by Lorenz's method with success, except in one instance, in which he carried out Hoffa's procedure, the patient dying from shock.

MR. ROBERT JONES brought forward a case of recrudescent rickets and gave the following history. The patient, a girl of 16 years, was admitted into the Southern Hospital, Liverpool; the family history was good. She was the second of four daughters and her sisters were of moderate physique, strong and free from deformity. She passed an uneventful childhood and there was never any suspicion of rickets. At the age of 7 she felt rather poorly and was ordered change of air. On her return, twelve months later, it was noted she had developed knock-knee. She had no fever and no particular ailment when first attacked, but since the genu valgum appeared her back had been painful. Up to two years ago she was able to walk comfortably, but since then her symptoms had been much aggravated and she had been quite unable to stand or walk. She had always been a dainty feeder and was said never to have made a good meal. On examination it was found that the left parietal bone was slightly flattened, so that the head was asymmetrical. The sutures were closed but the sulci were well marked, especially that between the frontal and parietal bones. The palate was arched and all the teeth except the wisdoms were present. The lower jaw was thickened at the angles and pointed at the chin. The circumference of the head was twenty and one-half inches. The chest was somewhat barrel-shaped, the ribs were beaded, and Harrison's sulcus was marked. The heart and lungs were normal. There was also some rib deformity, due to a slight lateral curvature. The abdomen was large and prominent; the abdominal muscles were flabby. In addition to a lateral curve to the left, there was very marked lordosis, accompanied by rigidity. The angles of the scapulæ were prominent. There was nothing very noticeable about the clavicles or humeri. The radii were enormonsly thickened at the lower end so that the appearance was somewhat that of a very bad Colles' fracture. Supination was much interfered with, pronation to a slighter degree. The arms were very thin and poorly developed, but she had a fairly good grasp. The pelvis appeared to be normal; there was considerable enlargement of the lower end of the femora, and the internal condyles were very prominent and elongated so that on extension of the limbs, there was an exceptional knock-knee, the leg forming an obtuse angle of 135 degrees with the thigh. This deformity was more marked on the left than on the right side. There was also flexion deformity of the knees and it was impossible to get the legs perfectly extended. Flexion perfect and the knock-knee disappeared. Further, there was flexion deformity of 25 degrees at the hips. The feet were in varus position and this was due to an acute bend at the lower end of the tibia just above the ankle joint, and also to a great thickening at the lower ends of the fibula. The sacrum was curved and prominent. The child was very stunted in growth and small for her age, and ill nourished. She was fairly intelligent, but could not walk or stand at all. There was one ninth albumin in the urine.

MR. JONES—Attention has been drawn in this country to either late or recrudescent rickets by Dremitt, Clutton, Lucas and others, and the rarity of the condition has been generally admitted. I am convinced, however that its rarity is overstated. Without being able to verify the precise number I

have certainly seen between twenty and thirty cases. In most of these the lower extremities are alone affected. In some, as in the present case, the head, chest and upper extremities participate in the deformities. In all, the enlargements are more or less shared by the epiphysial ends of bone. They therefore differ from the cases of Clement Lucas in the fact that the deformities are not confined to the shafts of the bones. Clutton, in the description of his case, draws attention to the fact that the shafts of the bones of the forearm were not bent and that this was another confirmation of the fact that the upper limbs bend in infantile rickets from the inability of the little patients to assume the erect position. In the case I report, the forearms are characteristically bent; the deformities starting long after the patient had ceased to crawl. This bears out several observations I have made with regard to the etiology of knock-knee; the deformity characteristic of rickets arising and developing while the patient remained in bed. In none of the reported cases do I note any reference to flexion deformities at the hip and knee, symptoms which I have frequently observed. From my experience I should conclude that: 1, late rickets is generally recrudescent; 2, that epiphyseal enlargements are an essential feature; 3, that while static influences bear an important part in the production of the limb deformities they are not essential factors; 4, that in addition to the common deformities of rickets, flexion deformities are found in the hip and knee and frequently limitations of movement in other joints; 5, that contrary to the experience gained from the cases of Clutton, Pitts and others, the skull and face may exhibit rhachitic deformities; 6, that the sacrum generally presents an angular projection about its middle.

Mr. A. H. Tubby remarked that although late rickets was accepted by many authors as a veritable disease, yet he had not come across any microscopic examination of the epiphyses of bones proving its identity with rickets of infancy.

After votes of thanks were passed to the Birmingham members for their hospitable reception and to the Birmingham Medical Institute for allowing the use of the rooms, the proceedings terminated.

SELECTIONS.

Exploration of the Duodenum by Intubation.—In the *Bulletin of the Johns Hopkins Hospital*, April, Dr. J.C. Hemmeter reports that he has been engaged in working out a new diagnostic procedure, which he calls "Intubation of the Duodenum." This is not an analogous procedure to the passage of a rigid tube into the larynx in occlusion of the lumen of that passage by pseudo-membrane or edema. It is possible that intubation of the duodenum may be interpreted as meaning the insertion of a rigid tube through the pylorus, to secure permeability in the duodenum in cases of stenosis resulting from cicatricial contraction or of stenosis resulting from neoplasm. The intubation referred to in this report, however, is simply the passage under normal conditions of a tube through the mouth, esophagus, stomach and pylorus into the duodenum. Dr. Hemmeter's explanation is as follows:

"The possibility of this procedure occured to me during a long series of experiments in the biologic laboratory, in which it was attempted to get a method of registering the peristalsis of the stomach upon the kymograph. We use a deglutible apparatus which consisted of a very soft rubber bag having the shape of the stomach kymograph, which was passed into the stomach in the collapsed state and then blown up so that it applied closely to the walls of the organ. In this manner the muscular contraction of the stomach, the impulse of the aorta and the respiratory movements were registered through a writing apparatus connected with a manometer to which the esophageal tube leading into the intragastric bag was attached. In one or two cases it was discovered beyond a doubt that this intragastric bag had slipped the duodenum, which was evidenced not only by the length of the tube, but also by the fact that when the bag was blown up the stomach was not distended, the patient complaining of pain in the region of the gall bladder by the distension. From a large number of very accurate measurements on living and dead subjects, male and female, it has been found that the average length of the esophagus, or rather the length from the incisors to the deepest part of the stomach, is 59 centimeters. The average length of the stomach in its longest direction is 18 to 22 centimeters. The greatest width is 7 to 8 centimeters. Under normal conditions, therefore, there is no physical reason why a tube can not be passed into the duodenum, presuming that the tube does not kink or turn in the stomach, which it will unfortunately do. The esophagus takes a nearly perpendicular course until near the bifurcation of the bronchi it begins its spiral turn, which brings it to the left of the aorta. In that region it has a very gradual swelling, so that it there assumes a spindle shape. About the level of the tenth thoracic vertebra the esophagus begins to narrow down until its narrowest portion is reached, at what is called the hiatus. The foramen esophageum is about 8 centimeters behind the articulation which the sternal end of the tenth rib makes with the base of the ensiform cartilage. From this point the subphrenic portion of the esophagus passes decidedly to the left, expanding in a funnel-shaped manner. This deviation causes a deflection of the tube. To avoid this deflection it occurred to me to fill the stomach with a rubber bag, the superior surface of which contains a groove running longitudinally. After the bag is inflated the tube is passed down and finds its way along the groove and enters the pylorus. Now the sphincter of the pylorus is not an absolute sphincter. The sphincter of the bladder will retain water; not so the pyloric sphincter."

In the discussion that followed in the Hospital Medical Society, Dr. Howard A. Kelly briefly referred to his two diagnostic intestinal instruments, the sigmoidoscope and the proctoscope. He said, "My practical interest is entirely in endoscopic progress at the other end of the body. As I have had some questions to discuss relative to priority lately, I realize how important it is to get on record in time, so I will show you what I have done to meet Dr. Hemmeter. Those of you who have been in my clinic have seen my proctoscope and sigmoidoscope in use. They have been very successfully employed in a number of cases in diagnosing and treating diseases of the whole of the rectum and a large part of the sigmoid. The following case illustrates their use: A doctor in New York swallowed his teeth one night. They stayed in his stomach quite a while and then he felt them pass the pylorus; then they rested at the ileo-cecal valve for a long time. Then they were traced from the ileo-cecal valve to the sigmoid flexure, where they lodged. Here they could be felt by the doctor himself as well as by Dr. Wyeth. He came down to Baltimore to me one evening for an examination by my method, but as the rectum was too full of fecal matter for an examination at that time I ordered an active purge. The next day he came and I passed a long coloscope into the rectum, while he was in the knee-breast position; he felt the instrument strike his ribs and was well satisfied that he had passed the teeth during the night on account of the purge. I certainly found nothing abnormal. The difficulty usually is that the expansion of the bowel ceases in the sigmoid. I now have an instrument in my operating room which is made to reach from the anus to the splenic flexure. The plan of construction is this: A long metal tube with a piece of glass in the proximal end has set in one side a small electric lamp which is connected with a storage battery. On the other side is an opening attached to a Davidson syringe with which the bowel can be inflated; under inflation we can follow the bowel up to the splenic flexure, and

sometimes with a prism we can see around into the transverse colon."

The Recent Serum Tragedy at Berlin; Official Report.—Professor Ehrlich's official report on the serum used in the sad Langerhans case has been published by the Prussian *Cultus-minister*. Ehrlich comes to the conclusion that the serum was entirely normal in its constitution. He says: "In the Langerhans case No. 216 of the Höchst works was used. This No. 216 had been officially tested on December 16, 1895, and passed on for sale on December 18, the examination having demonstrated the required 100 immunizing units per cubic centimeter, perfect sterility, and the prescribed admixture of carbolic acid. Immediately after the announcement of the death this serum was subjected to a careful reëxamination. As the legal authorities had disposed of the remainder of the bottle used for the injection, samples of the same pass number that had remained at the station were taken, and also bottles of the same number from the stock of the Charité Dispensary, where Professor Langerhans's bottle had come from. The serum again showed the required 100 units per cubic centimeter, and bacteriologic examination proved it to be free from germs, so that there can be no question of any subsequent formation of poisonous bacterial products. By a number of experiments on animals the admixture of carbolic acid was shown to be no higher than permitted. Thus, on reëxamination too, the serum answered to the tests exacted. Nevertheless, it seemed important to ascertain whether, perhaps, toxic effects produced by this number had been noticed anywhere else. About 1,300 portions of this serum had been brought on the market, and if it really contained toxic substances it seemed extraordinary that no one had drawn attention to the dangerous qualities of this particular number. Researches were made in the hospitals that had received No. 216 serum from the Höchst works (serum depôt of the Royal Charité Dispensary, Julius Hospital in Würzburg, General Hospital in Hamburg, sick club of the Royal Dockyards in Kiel, Municipal Hospital in Madgeburg, Krefeld Hospital); in none of these places had any special, much less any toxic, effect of the serum been observed. According to the statement of the director of one of these hospitals, a child of 18 months had been given a dose of 16 c. cm. without showing any alarming symptoms. This is at least ten times the dose used for Professor Langerhans's child. The director of the Hamburg Hospital gave an account of immunizing experiments on children. He says that four bottles of the No. 216 serum were used for immunizing children in the eye department; not only were no ill effects observed, but it might be confidently asserted that none existed. Thus the clinical communications also contradict the assumption that substances of strong toxic action were contained in the serum. On the contrary, the No. 216 serum has shown itself to be a preparation answering to all the tests at present exacted, and perfectly normal in its constitution."—*British Medical Journal.*

Orphol.—Dr. Edmond Chaumier, physician to the Sanatorium of Touraine, and director of the Animal Vaccine Establishment of Tours, France, has written an article on the use of orphol for intestinal antisepsis, and in surgery, of which the following is a summary:

All the various substances employed for the purposes of intestinal antisepsis, calomel, carbolic acid, creosote, boric acid, carbon, iodoform, etc., are useful; but all have their disadvantages. Thus calomel, whilst it has an antiseptic action and cleans out the putrefying matter, may lead to a catharsis and an absorption of mercury that may be dangerous.

Naphthol has none of these drawbacks, and possesses certain important advantages of its own. In typhoid fever it keeps the tongue moist, lessens the stupor, delirium, subsultus, and all the ataxo-adynamic symptoms of auto-intoxication. Its use diminishes the number of microbes in the intestinal tract.

Together with naphthol, Dr. Bouchard employed the salicylate of bismuth. This causes ringing of the ears, on account of the absorption of the salicylic acid into which it is decomposed in the intestines. The caustic taste of the naphthol renders it necessary to administer it in capsules; given otherwise it is vomited.

These inconveniences have led me to try another naphthol compound, orphol, which is a naphthalate of bismuth. It is a grey powder that has neither the penetrating odor nor the burning taste of naphthol. Jasenski's experiments have shown that orphol is decomposed in the intestinal canal into naphthol and bismuth. The naphthol acts as an antiseptci, and, if there is a diarrhea at the time, the bismuth set at liberty controls, but does not cause the obstinate constipation that the other bismuth salts do. Orphol stops the development of microbic life in the intestines, yet is perfectly harmless; 10 gms. (150 grains) given daily to dogs, and 5 gms. (75 grains) daily in the human subject have done no harm, even when continued for weeks. Jasenski recommends the drug in all maladies, acute or chronic, of the digestive tube. Hugo Engel regards it as the best intestinal antiseptic, and has given it in large doses both to children and to adults.

Orphol contains 26.5 per cent. of naphthol, and 73.5 per cent. of oxid of bismuth. Bouchard having demonstrated that to obtain intestinal antisepsis in the adult, 2.5 gms. (37½ grains) of naphthol daily are required. Ten gms. (150 grains) of orphol would be the quantity necessary to obtain a like result. This dose can be given without difficulty; but experience has shown that 5 gms. (75 grains) daily has almost always been sufficient.

In cancer of the stomach antisepsis necessarily plays a large part in the treatment; and orphol is to be employed in preference to all other drugs, from the fact that it in no way irritates the diseased tissues. It may be given in half gm. (7½ grains) doses dry in capsules or with syrup. It may also be employed in suspension for lavage of the stomach. Ten gms. (150 grains) in suspension in a liter (1 quart) of water used after washing with plain water and repeated twice a day. In gastric ulcer it has been highly recommended by Wilcox, and may be used in capsules, or in suspension, as in cancer.

As an antiseptic and germicide it is commended in all morbid conditions of the stomach and intestines due to fermentation, putrefaction, or the infection by special germs.

Wilcox has found great benefit from the use of orphol in typhoid fever. Dr. Hueppe recommends orphol in cholera, he having treated a large number of cases with it in the hospitals of Hamburg. Nencki, Schubenke, Blackstein, and Petkewitsch have administered it with success in the choleriform diarrheas. Jasenski, in six cases of intestinal catarrh, effected cures in two to five days. It was successful even in old chronic cases.

For surgical antiseptic applications orphol would seem to be especially indicated, in the place of iodoform, salol, etc. The accidents so common with iodoform would certainly not occur. It should be very useful also in burns. Being antiseptic, it is as efficacious and more useful than bismuth. I have used it as a powder in the treatment of the ulcerations of the thighs and genitals in children, either pure or mixed with talcum. In impetigo I use orphol with vaselin, 1 to 10, with much success.

The Dangers of Diphtheria Antitoxin.—At a meeting of the Société Médicale des Hôpitaux (*Semaine Médicale*, April 29, 1896) held on April 24, M. Variot made a brief communication concerning a case of death following the use of antitoxic serum. A child aged 18 months had a slight attack of pharyngeal diphtheria, followed by croup, with spasm of the glottis. Intubation was resorted to, and 20 c.cm. of antidiphtherial serum was introduced in two doses; the child died in forty-eight hours, with a temperature of 104.9 F. On *postmortem* exam-

ination no special cause for the death was found in the pharynx or larynx, from which the membrane had disappeared. Without affirming that the antidiphtherial serum was the cause of death in this case M. Variot suggests that it may possibly have had something to do with the production of the high temperature, and throws out the suggestion that there may be, in certain serums, a fever-producing body which can not, however, be recognized by chemical analysis. Fully recognizing, as he does, the enormous value of this serum, he desires to have this point settled at once. A colleague, M. Sevestre, who has had very extended experience of the use of serum, has never observed any such accident among his cases, and he thought that this must be looked upon as quite an exceptional case; he therefore did not think it right, until the proof of the nexus between the serum and the high temperature could be more fully demonstrated, that the serum should get the blame. There can be little doubt that with some serums, and in the hands of some physicins, a larger percentage of high temperatures have been observed than in others. This statement does not apply to the slight initial rise of temperature which frequently follows the introduction of antitoxic serum and precedes the fall which is now by most people looked upon as a somewhat favorable sign, indicating as it does that the serum is exerting its specific effect on those cells that have been overstimulated and paralyzed by the toxin. It applies rather to the secondary fever which is usually associated with the rashes, the joint pains, and the other sequelæ, which are said to be associated with the use of this subtance, and which appears to be due to the fact that the skin may be stimulated to excrete the products formed by the tissue cells under the influence of the antitoxic serum, and perhaps also of the toxin. The second possibility is that there may be some irritant matter in the serum, under certain conditions, which may determine these results. In view, however, of the fact that only one patient in every two or three ever has the slightest symptoms which could in any way be ascribed to the serum, and as some physicians treat case after case without the occurrence of any such symptoms, only one occurring here and there, may it not be that idiosyncrasy plays an important part in determining the effects mentioned? Coming, however, to the special cases in which death has been ascribed to the injection of antitoxin, it must be borne in mind that diphtheria has always been looked upon as one of the most treacherous diseases with which a physician ever has to deal. Patients who appear to be on the high road to recovery have succumbed with symptoms of heart failure, of pyrexia, and various forms of paralysis. It is too much to hope that antitoxin, especially when administered in the later stages of the disease, can prevent the fatal issue of a number of such cases of diphtheria that come up for treatment. The death rate will be and has been diminished by the use of the remedy in the early stages of the disease even in severe cases, but when not given until the later stages we must always expect a certain proportion of accidents similar to those with which we have hitherto been only too familiar before the introduction of antitoxic serum.—*British Med. Jour.*

The "Open air" Treatment of Phthisis.—At a recent meeting of the South Eastern Branch of the British Medical Association, Dr. Arkle read a paper on this subject, with special reference to *Heilanstalten* or sanatoria. He drew attention to the great number of cured phthisical cases which were observed by persons who made a large series of postmortem examinations on old town dwellers, male and female, and remarked that it was almost usual at such necropsies to find, either from old cicatrices, calcareous nodules or old caseous foci, evidences of an attack of tubercle in early life. Probably the majority of these patients had thrown off the attack without any special treatment. Could anything be learnt from observations on the life-history of the tubercle bacillus in the laboratory or from a study of the disease as it was seen clinically? Points of importance seemed to be the somewhat limited range of temperature at which this particular organism flourished in the laboratory, the dangers which arose from the dissemination of the bacillus or its dried spores in every day life, and the ease with which these latter could be counteracted. Clinically, the very considerable amount of digestive disturbance which was so common in cases of phthisis was referred to, and the great repugnance these patients had to fatty foods. From the observation of these two points, in the natural history of the disease, the author urged that treatment in a sanatorium offered the best prospects of success. The essentials of a good sanatorium were then enumerated, special reference being made to the facilities for keeping the patients in the open air, in the construction of such an establishment, and to the care which must be taken to disinfect all sputa and other dejecta. Attention was also called to the system of "hardening" patients which was carried on in these institutions. In the climatic treatment of phthisis the sea, the dry land, mountains and valleys, hot dry air, cold dry air, all varieties of elevation, temperature, and situation had their advocates, but without doubt the most important quality must be the purity of the air in the locality where the patient was treated. The author considered that with proper care and selection suitable places could be found in the British Isles. In the matter of diet and medicinal treatment the digestive functions were kept active and vigorous, as much milk taken as possible in addition to a good full diet, the patient being kept as long as possible in the open air in the day and with the windows of his sleeping room open at night; little then remained to be done except to prevent him contaminating his surroundings with sputa or other tuberculous dejecta. Inasmuch as pure air, antisepticism and nourishment were the chief potent factors which were offered (under certain restrictions) by any health resort, due thought ought to be given to every individual case before it was decided to banish such patients from our shores.—*Brit. Med. Journal.*

Practical Notes.

Rubella.—One of the most interesting features of rubella is the constant presence of glandular enlargements. So constant is the occurrence of this symptom that the diagnosis should be made with caution when it is not present. The glands most frequently involved are the cervical, the post-cervical, and the sub-occipital. A nest of small glands found low in the neck behind the sterno-mastoid is especially characteristic of this disease. Although rubella is an extremely mild disease, the peculiar glandular enlargements, the marked eruption, and its close simulation of other more serious diseases render it of considerable interest.—*Arch. Pediatrics*, June 1896.

Cystin.—Dr. E. Cutler says of cystin: It is not as rare as thought and is of clinical importance. Cystinic rheumatism is so called because cystin predominates in the blood. It is probably a normal body if kept in solution in the blood by sufficient water supplied to the system. Cases where cystin is found oftenest are those in which sulphur has largely entered into the food *i.e.*, yolks of eggs. Treatment of the condition consists in removing sulphur foods as far as possible from the diet. Supply menstruum in abundance; distilled water is best. Give lemon juice as a solvent.—*Med. Bulletin*, June 6.

Sponge Grafting in the Orbit for Support of Artificial Eye.—Dr. E. Oliver Belt has performed the operation in five cases with fairly good results. He says: The operation is a simple one, and is performed as follows: The eyeball is removed by the ordinary method under strict asepsis. After all hemorrhage is arrested, the socket is washed out with formalin solution, 1 in 1,000, followed by sterilized salt solution. A globe of fine, soft, sponge about three-fourths the size of the eyeball (previ-

ously sterilized in 5 per cent. formalin solution and rinsed in the salt solution) is then inserted into the socket, or capsule of Tenon. The conjunctiva is brought together and sewed with rat-tail sutures. The eyelids are then closed with compress and bandage. In a few weeks the sponge is filled with new tissue, which in time becomes firm, solid flesh, making a full orbit and a fine support for the artificial eye. The sponge fibers are apparently absorbed.—*Medical News*, June 27.

Transient Bulbar Paralysis Caused by Malaria.—Orlandi describes in the *Riforma Medica*, several cases of apparently severe progressive bulbar paralysis, following an attack of pernicious malaria, all cured by large hypodermic injections of quinin.

Treatment of Acute Infectious Diarrhea in Infants.—Dr. H. M. McClanahan says: Stop the food supply. Remove the products of imperfect digestion from the intestinal tract by irrigation, continued until the water returns free from admixture of fecal matter. Inject solution of 20 grains of tannic acid in a pint or more of sterilized water and have it retained in the bowel about an hour. When vomiting persists the stomach should be washed out also. To neutralize the toxins calomel in 1-10 grain doses hourly for the first twenty-four hours is recommended. First among antipyretics is the cooled bath. When watery discharges continue after the irrigation, hypodermics of 1-100 grain of morphin and 1-800 grain of atropia can be given. Stimulants are indicated in the severe cases and whisky is the best that can be given. After the urgent symptoms have subsided the child can be nourished with the white of an egg stirred in cold water, or the mixture recommended by Jacobi: Five ounces of barley water; the white of one egg; one or two teaspoonfuls of brandy or whisky; some salt and sugar. A teaspoonful every five or ten minutes as indicated. No milk should be given for several days.—*Am. Jour. of Obstetrics and Diseases of Women and Children*, June 1896.

The Differential Diagnosis of Vascular and Muscular Tinnitus Aurium. One variety is caused by the flow of blood through the irregular-calibered blood vessels of the internal ear and those in the neighborhood, producing vibrations by the passage of the blood. This I have named vascular tinnitus aurium. The other variety is produced by the action of diseased muscles of the middle ear, producing vibrations by alternate contractions and relaxations. This I have named muscular tinnitus aurium. Many persons, who are partially deaf and experience excessive noise in their ears, will hear a conversation in a moving railroad coach better than in a quiet room. This is positive proof that all such persons are afflicted with muscular tinnitus aurium. The sound or sounds that are formed in the internal ear and its neighborhood, *i. e.*, vascular tinnitus aurium, will not be decreased in any degree by extrinsic noises of any kind. It is often of the utmost importance to be able to differentiate between the two kinds of tinnitus, for a treatment or procedure that would be of great value to a patient suffering from the muscular variety would be decidedly injurious, if not disastrous, to one suffering from the vascular variety, and vice versa.—THOS. F. RUMBOLD, M.D., in *St. Louis Medical and Surgical Journal*, June, 1896.

Rapid Cure of Soft Chancres by Electric Heat (Not Cautery).—The Paris correspondent of the London *Lancet* sends the following note to the issue for June 6, under the title of a new treatment of soft chancres by heat:

Dr. Audry, of the Toulouse Faculty, has devised a modification for the heat treatment of soft chancres introduced three years ago by Dr. Welander, of Stockholm. Dr. Audry employs radiant heat supplied by the thermo-cautery, the button of which is held for a few seconds at a distance of three or four millimeters from the sore previously washed and dried. Should the point of the thermo-cautery be fine it must be brought to a white heat: if larger, to a dull red heat. Exposure to this radiated heat for the period indicated has the effect of thoroughly drying the ulcer, on the edges of which there now appear sanguinolent striæ. Too long exposure determines a raising of the surrounding epidermis and a reddening of the skin. A single seance is stated to be usually sufficient to transform the chancre into a simple ulcer, which soon cicatrizes under the influence of any antiseptic powder. The rapidity of the healing is due to the absence of the scab that always follows the direct application of actual or chemic heat. The pain is said to be quite endurable, being less than when the actual cautery is employed.

Symptoms of Incipient Exophthalmic Goitre.—It is very important to be able to distinguish this disease from the first, instead of waiting for the exophthalmus and goitre to appear. An article in the *Journ. des Pract.* for May describes several early signs by which it may be recognized. Principal among them is a series of ocular troubles, a lack of synergic action in the lid and brow when the ball is turned abruptly upward, incomplete occlusion of the palpebral fissure, pulsation in the lids, muscular paralyses and sometimes diplopia or photophobia. There are also disturbances in the nervous system; beside a general irritability; there are often cramps, neuralgias, hyperesthesias, insomnia, choreic movements and sensations of excessive heat. The tremor, which is rarely absent from the first, has a specific character in its rapid vibrations. If there are no accompanying symptoms of hysteria, this tremor is of great diagnostic value. The general symptoms that may occur are numerous and various, from dyspepsia, bulimia, gastric and diarrheic crises to genital troubles and edema resembling myxedema. Other disturbances indicate the participation of the medulla oblongata, suffering from lack of the normal secretions of the thyroid gland, polyuria, albuminuria and dyspnea. Pregnancy is one of the most important predisposing causes of this disease, and it may also appear as a complication of neurasthenia, chorea, epilepsy, paralysis agitans, syringomyelia, general paralysis and various psychoses, especially tabes and hysteria. It is also a possible complication of diabetes, sclerodermia, acromegalia, mollities ossium and chlorosis.—*Revue Int. de Méd. et de Chir.*, June 10.

The Limits of Vaginal as Compared with Abdominal Exploratory Section.—Dr. Henry C. Coe says his experience leads him to select the abdominal method of exploration in the following conditions: "1. In the case of neoplasms or obscure enlargements which are situated in the abdominal cavity, or have risen above the pelvic brim, especially if they are more or less adherent. 2. In ascites of doubtful origin, more particularly when tuberculous or malignant disease is suspected. 3. In cases of disease of the adnexa in which the latter are situated near or above the pelvic brim, as established by bimanual palpation. 4. In cases in which the history and symptoms point to general intestinal adhesions, and above all, when appendical complications are suspected. 5. In ectopic gestation before rupture, when the sac is high up, at the side or in front of the uterus, instead of in Douglas's pouch. 6. In case of intractable pelvic and abdominal pain of obscure origin, including the so-called neuroses. On the other hand, explorative vaginal section should be preferred: 1. In all cases in which the presence of pus within the pelvis is suspected, as in pyosalpinx, pelvic abscess proper, suppurating dermoids and cysto-adenomata, and hematocele. 2. In the case of small intra-pelvic tumors situated in the pouch of Douglas, or at least readily accessible from below. Impacted ovarian cysts, dermoids, and fibroids belong to this category. 3. Adherent adnexa situated in the true pelvis. 4. Unruptured ectopic sacs in the same locality. 5. Circumscribed exudates and indurations in the broad ligaments or behind the uterus, especially when associated with displacement and fixation of the lateral organ."—*N. Y. Polyclinic*, June, 1896.

Epiphysial Separation of Lower End of Femur.—Dr. Richard H. Harte says in regard to diagnosis: There are two forms of injury with which it is likely to be confounded, *i. e.*, dislocation of the knee joint and fracture of the femur above the con-

dyle. Traumatic luxations of the knee are a rare injury in early life. If the separation is compound there is little difficulty in diagnosis; when simple the abnormal mobility will serve to distinguish it from dislocation in which the movements of the leg on the thigh are restricted in a marked degree. Fractures in this part of the bone are rare at any time of life and especially so in persons under maturity. The age of the individual and the character of the crepitus will assist in determining the position of the injury. If the crepitus is of the dry, grating character, it can be easily distinguished from the soft moist crepitus caused by rubbing the diaphysis against the cartilaginous head of the tibia.—*American Journal of Medical Sciences*, June, 1896.

Artificial Ear Drum Membranes.—Dr. Vincent Gometz says: The artificial drum membrane was first used by the laity in 1640 and afterward by the profession. It has been made of a variety of materials. Tearsley, in 1841, selected a cotton pellet for the purpose. It is first slightly moistened and placed in the same position where it will best improve the hearing. This will be found by experiments. Toynbee, in 1853, introduced an artificial membrane, consisting of a thin rubber disc attached to a fine wire. Lucas has covered the wire with rubber tubing to prevent the unpleasant rattling in the ear. Gruber uses a similar piece of rubber as that of Toynbee but attaches to it a piece of silk thread to withdraw it from the ear. Artificial drums are sometimes made of tin foil, used in the same manner as cotton. Ordinary blotting paper answers the purpose very well. The indications for the use of the artificial drum membrane are as follows: 1, when a drum cavity needs protecting from the air; 2, whenever the ossicula are detached from each other, the result of destruction of their ligaments or from failure of the membrane to keep them in proper contact, or even a severance of continuity consequent on relaxation of the ligaments or absence of the incus, with a gap existing between the membranes and the stapes (the latter also may be in a state of subluxation from relaxation of its annular ligament), the artificial membrane keeps it properly in position.—*New Polyclinic*, June, 1896.

Treatment of Antrum Disease.—Dr. John E. Bacon describes his method of operation. It consists in cleansing and medicating the cavity through a small puncture in its inner wall in the inferior meatus of the nose, which can be made without general anesthesia and without pain. The instruments are a steel trocar and canula, two silver tubes, a silver wash tube, and a hard rubber syringe with rubber tube connections made to fit the canula and wash tubes. Cleanse the nares with the antiseptic spray, cocainize the inferior turbinal and floor on the side to be operated upon, insert a rubber operating speculum well into the nostril and place the trocar beneath the inferior turbinal about one and one-fourth inches from the skin margin; by bending the septum to the opposite side the point of the trocar will point obliquely into the cavity of the antrum. A slight tap with a leaden or rawhide mallet will cause the trocar to penetrate the thin bone which constitutes the inner wall of the cavity. Care must be taken not to penetrate too deeply and so wound the opposite side of the antrum, as serious hemorrhage might result. In most cases the trocar can be pushed through the thin bony wall with the fingers alone, and this should be done, when possible, to avoid the mental shock which the blow with the mallet sometimes gives. The trocar may now be withdrawn, leaving the canula in place, and the rubber tube may be attached to the canula and the cavity syringed out with warm sterilized normal salt solution. The fluid will escape into the nose through the ostium maxillare and bring with it pus if any be present. After the cleansing, the trocar may be replaced and the nut removed, when the canula may be withdrawn over the trocar; now a silver tube is slipped over the trocar and the latter is withdrawn, leaving the silver tube in place, and this may remain as long as required without any irritation. This tube is exactly fitted by the silver wash tube, and the cleansing may be repeated without inconvenience. A solution of menthol and camphor in liquid albolene may be easily sprayed through the tube and aristol or other non-irritant powder may be blown into the antrum by the same means. It is imperative to thoroughly sterilize all instruments used, and to use only warm sterilized fluid in each case, to prevent infection.—*The Am. Therapist*, June, 1896.

Clinical Experience with Benzosol.—Concerning this remedy, which is a benzoate of guaiacol, the June issue of the *American Therapist* has a clincal report by Dr. J. V. Kofron of Cleveland, Ohio, which states that he has found the following favorable features: 1, the avoidance of the unpleasant eructations which so frequently occur after the administration of pure creosote or guaiacol, and 2, the liberation of the antiseptic guaiacol in the intestine where its action is especially desired in the treatment of septic conditions of the intestinal tract attended with fermentation. In the treatment of tubercular affections, the administration of benzosol affords a most pleasant and efficient method of obtaining the constitutional effects of creosote without the many unpleasant features of the latter drug. As it is entirely free from unpleasant taste or odor and is almost invariably retained by even a sensitive stomach, one can by this remedy push the dose much higher than when creosote itself is employed. In cases of incipient tubercular phthisis with considerable cough and expectoration, slight evening elevation of temperature, loss of appetite, furred tongue, etc., the administration of benzosol gr. iv four times a day serves to relieve the cough, reduces the amount of expectoration, brings down the hectic temperature, clears the tongue and increases the appetite. Similar results have been observed in cases of chronic bronchitis in which severe cough, profuse expectoration and dyspeptic symptoms have been predominant features. Very surprising to me have been the results obtained from the use of benzosol in the treatment of cases of tubercular diarrhea, in which the remedies usually administered proved of little value. In intestinal catarrh with flatulency, benzosol speedily and effectually checks undue fermentation, and it also affords a valuable intestinal antiseptic in cases of typhoid fever. In three cases of this latter disease in which this remedy was used exclusively, the following satisfactory results were noted: Temperature never rose above 103, tongue quite clean and usually moist, none of the patients exhibited tympanites or suffered from diarrhea, and none of them suffered from a relapse. "I have been desirous to test the efficiency of benzosol in the treatment of diabetes mellitus, as advocated by von Jaksch, Piatkowski and J. Blake White of New York city, but have not as yet had the desired opportunity. In conclusion, I wish to express my belief that we have in benzosol a valuable substitute for creosote in pulmonary affections, a safe and efficient intestinal antiseptic for the treatment of gastro-intestinal disorders attended with fermentation, and a useful remedy in sterilizing the bowel in typhoid fever."

On the Symptoms and Treatment of Angina Pectoris.—Sir Benjamin Richardson, in his *Asclepiad*, describes this affection as a disease of the sympathetic system rather than as a specific organic change in the heart or its vessels. He says, first, regarding the symptoms, that in the paroxysm the condition is simply terrible. It is in the chest that suffering seems to be concentrated. The chest is, as it were, pierced or transfixed through and through. The breath is held, and, as more than one of the sufferers has expressed it, it is as if the chest were in a vise, one blade of which was on the center of the back and the other on the sternum at its center. The chest feels as if it were filled and dilated with air which it is impossible to expel. The chest, in fact, can not be emptied, neither can it be

dilated or filled; and the coldness of the surface of the body, the whiteness and the fixity of the features, the condensation of water on the brow and running down the cheeks and the apparently rigid state of the limbs, all testify that there is no true breathing power. Yet it is not asphyxia that presents itself; it is rather syncopal unrest; and, indeed, there appears to be no exhaustion of air or any change for the better until there is a certain degree of relaxation of the diaphragm and of the muscles of the intercostal spaces. As to the treatment, nitroglycerin and nitrate of amyl, made into a mixture, so that it could be taken by the stomach slowly, he thinks, gives better effects than when it is inhaled, because when it is swallowed it seems to act favorably on the whole course of the sympathetic nervous system. As a mixture he has usually combined it with glycerin, putting 3 minims to a dram of glycerin, adding 3 drams of water and ordering that quantity, diluted further with an agreeable quantity of water, to be taken at intervals in the course of an hour. The effect of either of the remedies described above is, he says, often strikingly beneficial. Their action is to take off blood pressure and relax the arterial system, so that blood can flow more readily through the lungs, through the heart and through the general circulation. He fears neither remedy exerts a true curative action, for if it did we should really cure, whereas, as a rule, we only give relief.

Roentgen Photographs of Vesical and Renal Calculi.—D'Arsonval presented at the meeting of the Académie de Médecine, June 2, some Röntgen photographs of calculi taken by Gaiffe for Dr. Lavaux. In their experiments reported last February, they announced that it was possible to distinguish between the silhouette cast by a calculus and that cast by a rib, which was confirmed later by Chappuis and Chauvel. But these latest photographs possess an importance which will be readily recognized as they demonstrate that it will soon be possible to diagnose calculi in the urinary passages with absolute exactness. They not only show the existence of a calculus in the bladder, kidney or ureter, but it is possible to distinguish the substances of which it is composed, whether it is homogeneous or formed of different layers, whether the kernel is small or large and of what it is composed. The most interesting photograph from this point of view showed: 1, the silhouette cast by a calculus of pure uric acid; 2, that of a calculus the same size as the first, but composed exclusively of phosphate of ammonia and magnesia; 3, that of a calculus much larger than the others, formed of several distinct layers of uric acid in the center, with an outer layer, 4 mm. thick, entirely different in color, and composed exclusively of the triple phosphate; 4, the silhouette of a bone 1 cm. thick, and another of the index finger of one of the experimenters. The differences in the depth of shadow in this photograph are so marked that it is impossible to mistake the characteristics and kinds of the calculi. The tiny kernel of uric acid is distinctly visible, while the outer layers of the large calculus are represented by clearly defined rings. A second photograph showed another calculus with a kernel formed of urate of soda, inclosed in an outer layer of the triple phosphate, both very clearly defined in the photograph. A third represented a number of uric acid calculi lodged in the parenchyma of a kidney, one-half of which was 5 cm. thick. The rays passed through this thick layer of tough tissue and the calculi alone showed in the photograph. It will be a very simple matter, therefore, preliminary to an operation, to take the photograph of similar calculi, and then compare them with the results of photographs taken through the patient. This will provide most important points of comparison, as the results differ with each Crookes' tube. A recent special publication states that the indications for an operation vary according as the calculus is of primary or secondary formation. An exact diagnosis thus made preliminary to the operation, will be of great value, especially in the case of elderly persons and "prostatics," to determine beforehand the exact location and composition of the calculi. The progress accomplished in the last few months promises a speedy solution to the entire problem.—*Bulletin de l'Académie de Médecine*, June 2.

Actinomycosis Treated by Iodid of Potassium.—A well-written and laborious essay is one on the above subject in the *London Lancet* for June 6, by Mr. Malcolm Morris. The author is not only the editor of the *Practitioner*, but surgeon to St. Mary's Hospital, and his paper appears as a model of its kind in its care of preparation, in its judicial attitude and its utility to students. By one thing, it may be added, it has a bibliography extending beyond seventy numbers. The case, in brief, which responded favorably to the treatment, had the following salient points: "A single woman aged 59 years came under my care at St. Mary's Hospital on Nov. 18, 1895, with a large swelling over the lower jaw on the left side. About October 10 she first noticed a small nodule behind the ramus; it was just underneath the skin, and in about seven days began to discharge. It was very painful and continued to increase until she came to the hospital. The patient had for the greater part of her life been in service as a housemaid, but for about a year she had made her living as a needlewoman. She stated that she had never had to do with horses, cows or other animals nor with grain, hay or straw. There was no history of a blow or other injury and she could throw no light on the origin of the disease. Her record of previous illnesses showed nothing that could be interpreted as having any bearing on her condition, nor was there anything of significance in her family history. She had a large, dark red, nodular tumor with a sharply circumscribed edge on the left side of the face. It extended from the angle of the lower jaw forward to the corner of the mouth, upward to the zygomatic arch, and downward over the sterno-mastoid for about two inches. On the most prominent part, in the temporo-maxillary region, the surface of the mass was irregularly raised into nodules varying in size from a split pea to a small bean, each having a small opening at the top, the position of which was marked by a yellow bead of pus. On squeezing the nodules a little sero-purulent matter escaped. In this discharge were found firm yellowish-gray granules which microscopic examination showed to be masses of actinomyces or ray fungus. The skin over the whole mass was brawny and reddened. To the touch the swelling at first gave the impression of cartilaginous hardness, but on firm pressure between the fingers it was felt to be elastic. There was no fluctuation. Narrow spurs of infiltration also extended upward behind the lobe of the ear and backward to the posterior border of the sterno-mastoid. A hard lump of the size of a large hazel nut could be felt under the buccal mucous membrane. The structures forming the cheek were infiltrated and firmly fixed to the jaw, especially toward the angle, but the bone itself was not implicated. There were no teeth in either jaw except the left superior external incisor and canine. No enlargement of glands, either concatenate or supra-clavicular, could be felt on the left side of the neck, and there was no evidence of secondary growth. There was no trismus, but the patient complained of great pain, particularly on mastication, and the nodules were tender on pressure. She had a poor appetite and slept badly, but otherwise there was no disorder of the general health. The microscopic examination was conclusive; apart from this, however, the situation and appearances of the swelling were characteristic. The internal administration of iodid of potassium was begun on November 21, when the following mixture was ordered to be taken three times a day: Potassii iodidi, 15 gr.; spiritus ammoniæ aromatici, 20 minims; decoct. cinchonæ ad ℥j. For the first three days after the commencement of the treatment the pain was worse and the discharge was profuse, but after that the good effect was soon manifest. The pain abated, the swelling became paler and softer and began to shrink. After ten days of the treatment only slight traces of the fungus could be discovered in the discharge, which was very scanty. On December 16 the dose of iodid of potassium was increased to 20 gr., and on Jan. 27, 1896, to 30 gr. three times a day. The improvement continued, and, in short, the history of the case from the time the patient was brought under the influence of the iodid was a record of uninterrupted progress toward a cure. Together with the retrocession of the local process appetite and sleep returned and the woman felt better than she had done for a considerable time. At the beginning of February the swelling had nearly disappeared, the sinuses had healed up and only a trace of the disease was left." When last seen (May 28) the patient was well, but was still taking the iodid.

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SATURDAY, JULY 11, 1896.

THE CELLAR IN ITS HYGIENIC ASPECT.

The Legislature of the State of New York has for some time been considering the subject of bake-shops and bakers, the remedial enactments effected having had primarily the interests of the employes in view, with which as physicians we have no especial concern; but incidental to the investigation as to the hours they were required to work (one hundred to one hundred and thirty-two a week, the limit now fixed by law being sixty), it was discovered that one thousand and forty-nine of the one thousand and fifty-nine bake-shops investigated were in cellars, and that in seven hundred and thirteen of these the height from floor to ceiling was less than eight feet; and when it is further stated that six hundred and twenty-three of the number were found to be absolutely unhealthy and *only five positively clean*, it does become a matter with which physicians have most especial concern.

The word microbe has become domestic as well as professional, and parents and children discuss their deadly tiny enemies as glibly as learned professors describe their cultures and death-points. It is the age of the Lilliput and the terror inspired by these diminutive foes makes them indifferent to the visible presence of lusty Brobdingnagians. Theoretical speculations concerning germicides and blind dependence upon disinfectants cause people to forget the simple precautions of common sense hygiene and lose sight of the abundant store of health-preservers and germ-destroyers at hand with no other cost than the trifling labor of admitting them in the shape of air and sunlight.

The ingenuity of civilized man has been but little exercised in the direction of habitable homes for the intelligent product of centuries of education. The masses are gathered into buildings, where everything that can be is being done to enfeeble the inmates and dwarf their offspring, and to this end it seems to matter little what system of house-building prevails or in what locality.

Of all the abominations of modern residences, the cellar or underground basement, which characterizes our old cities, is the vilest. The city of Philadelphia, for instance, is completely undermined by these subterranean, dark, damp, moldy, foul-smelling receptacles for all kinds of household refuse, as well as coal, probably stowed wet, wood in the same condition and perishable provisions. The atmosphere of these murky underground apartments has a characteristic nauseous odor. Excepting a minority in first-class residences, they have either rotting wooden floors or none at all and the walls are the rough, untrimmed foundations of the house, seldom whitewashed or calcimined, and affording myriads of angles for the deposit of dust and molds. Many of these cellars are further contaminated by imperfectly closed and leaking drains and soil-pipes. The writer has in the course of many a sanitary inspection, to which the tenant was abusively hostile, discovered a condition of things, which while cement and whitewash might temporarily relieve, only a heavy fine could permanently remedy.

To the professional man, who is acquainted with the willful blindness of the many to their sanitary interests and their insane dependence upon drugs to nullify the mischief their neglect invites, it is not surprising that they not only allow their own homes to be endangered by a foul cellar, but are indifferent to the existence of other unhealthy cellars with which they have more or less direct relation. The underground bake-shop is an instance. Any passer-by can get a glimpse of the dirty, low-ceilinged hole in the ground, in which bread, cakes, pâtisserie and confectionery are prepared, from materials which have been stored there indefinitely, by unclean men from whose unwashed rags drops the sweat of heat and fatigue into the mixture they are molding. The official announcement that there were *only five positively clean* in over one thousand (1,049) investigated ought to provoke a revolt against any form of underground bakery or confectionery. PROFESSOR VAUGHAN rendered inestimable service to the community by showing some of the unclean ways by which ice-cream becomes poisonous, but is it not really a matter of surprise that any ice-cream manufactured in a cellar daily wet from melting ice and soiled by spilled flour, starch, eggs, sugar, gelatin, milk and other uncertain

ingredients, can be anything but poisonous? It was a wise sanitary advance which placed the kitchen in the uppermost stories of certain hotels and restaurants, but these are few beside the numerous sub-basement kitchens where weary cooks compound their culinary mysteries. The ordeal of fire is assumed to settle the mischief-making power of the ordinary microbe, but his coadjutor ptomaine is not so easily disposed of, and many a savory mess has endangered life, when the abused oyster, clam, lobster, prawn or frog had no prior claim to toxicity.

The investigation referred to showed another source of dirt and disease in the over-crowded underground sleeping-quarters of employes, which they further shared with dogs, cats and other domestic animals and noxious vermin—a state of things repulsively nasty if not positively dangerous. It is bad enough to have your morning roll and loaf of bread delivered by the dirty-handed driver of the baker's cart, but this is trivial beside the possible contaminations during the foul stages of their concoction.

The list of cellar nuisances can be greatly extended. It is the chosen home of the rag-picker and bone-gatherer. The corner grocer keeps his vegetables there which are unsold from day to day. The writer has encountered under-ground meat and game shops; and since the advent of the Italian fruit-peddler, he has made it his storage-place for bananas, grapes and the like, from which he wipes, in his own filthy fashion, the street dust of the day and the mold and mildew of the night to tempt unwary buyers on the morrow.

The alert modern sanitary inspector has no sinecure. Upon the proper housing of the population of a great city depends its vital condition. A local newspaper reporting a young witness in a great murder trial described her as "a typical New York flat-house child. Her face is slender and her limbs fragile. Although she is eleven years old, she could easily pass for eight or nine. Her voice was such a mere shred of articulation that it could not be heard a few feet away," and she was the daughter of a family of the better class, but she slept in a little cell dimly lighted from a shaft or well like others in which so many hundred thousand little children are being slowly smothered. The "apartment" has no cellar, but the same culpable defiance of common sense sanitation develops the typical flat-house child, and health authorities should wage war both upon the contracted windowless bedroom in which little Mary Cunningham was murdered and upon the dark damp cellar of the dwelling-house. An old medical officer of one of the national services, inspecting a large Government Hospital, astonished the junior officers by giving scant attention to the wards on which they had devoted so much time of preparation, while he pried into every corner of the basement and every cranny in the attic, and when they expressed their disappointment that he had only glanced at the especial objects of their pride, he said to them, "when the cellar and garret are in good condition, there need be no doubt about the rest of the building." Garrets are as apt to be neglected as cellars, but the greater inconvenience of access in a measure protects them from becoming receptacles of perishable articles and their very elevation secures better hygienic conditions. The cellar is the chief pestiferous site and the health officer should see that decayed flooring is replaced by cement, that the walls and ceilings are scraped and then thoroughly and repeatedly white-washed, that all leaking drains, soil and water pipes are repaired, that every destructible accumulation is removed, that the cellar-doors and other apertures are wildly opened in clear weather, and that when industrial occupations are permitted in them by law (and the effort should be made to reduce these to a minimum) they should be subjected to the most thorough weekly inspection, and the rigorous imposition of penalties upon landlords and tenants for neglect to remedy the nuisances reported. Perhaps the most effective way of having sanitary defects properly removed is for the health department to do the work required as it should be done by its own employes, the cost being charged to the delinquent owner or occupant.

THE HEMATOZOA OF MALARIAL FEVERS.

When LAVERAN in 1881 announced the discovery of a malarial hematozoon which in its full development was as large or larger than a red corpuscle, decorated with pigment granules often arranged in the form of a corona, and provided with flagella which stirred the neighboring blood discs by their oscillations, the medical world was probably more amused with the announcement than impressed with its value. Beside the perfected micro-parasite this French army surgeon described and figured a crescentic or banana shaped form which he considered an imperfect development, and oval or spherical, non-fillamented, degenerative or cadaveric forms, all containing pigment granules loosely scattered or variously aggregated. When it is remembered that HESCHL in 1850, and PLANER and FRERICHS in 1854, described pigment granules in the blood of malarial cases and noted their aggregation in cells or in small masses bound together by a hyaline connective it seems surprising that so little effort was made to verify LAVERAN'S observations. At the time, however, every trained microscopist was looking for the *bacillus malariæ*. KLEBS and TOMASSI-CRUDELI were credited with having found it, and as the likelihood was considered to be all in this direction, LAVERAN'S work was undervalued. He was credited with having mistaken degenerative characters in the blood corpuscles for phases in the life history of a hematozoon. In 1882 RICHARD came to his support

with observations on Algerian remittents, and three years later MARCHIAFAVA and CELLI in Italy, and COUNCILMAN and ABBOTT in this country, verified many of the observations. About the same time GOLGI, in studying quartan agues, discovered in the red corpuscles colorless plasmic bodies which as they grew larger became dotted with melanotic particles. He found that in a short time the normal constitution of the invaded red corpuscle became lost in its transformation into a colorless globule containing pigment. The dark particles became aggregated in the center and the colorless plasmic substance underwent fission in lines radiating to the circumference. The resulting segments or cellules, together with the central pigment, were then liberated into the current of the blood, and when this stage was reached a febrile paroxysm was imminent. After GOLGI'S announcement the subject attracted general attention and the existence of LAVERAN'S organism was acknowledged.

The latest study of the *Plasmodium* comes from the Medical Clinic of the Johns Hopkins Hospital as "an analysis of 616 cases of malarial fever with special reference to the relations existing between different types of hematozoa and different types of fever, by WILLIAM SIDNEY THAYER, M.D., and JOHN HEWETSON, M.D." These investigators describe and figure three types of micro-parasite, one associated with tertians, a second with quartans, the third with estivo-autumnal fevers. In their observations a clean cover-slip was brought lightly in contact with a drop of blood from the lobe of the ear. It was then placed on a perfectly clean slide and pressed gently to have the corpuscles spread side by side between the two surfaces.

In tertian ague a small hyaline body is found in the interior of the red corpuscle. It is actively ameboid, changing from a disc to a cross or star and sometimes to a ring by the fusing of pseudopodia. In a short time pigment granules, also having an active motion, appear in its substance, and the latter continues to increase until it fills and distends the shell of the red corpuscle. The pigment meanwhile collects in the center and segmentation by striation of the protoplasm takes place, the segments apparently becoming the small hyaline bodies which invade the red corpuscles for a new cycle of growth. Often the plasmic mass escapes from a ruptured cell before the segmentation is perfected. This parasite requires about forty-eight hours to complete its development, and is associated with relatively regular tertian paroxysms lasting ten or twelve hours, and usually presenting the classic stages of chill, fever and perspiration. Infection with two groups of tertian organisms maturing on different days gives rise to quotidian paroxysms.

In quartans the hyaline bodies are smaller than in tertians, but they are more refractive, the ameboid movements slower, and the pigment granules larger, darker, motionless and generally peripheral, but sometimes star-shaped and central. Ultimately the red corpuscles become filled, but not enlarged as by the tertian organism, and segmentation follows as described by GOLGI. A period of about seventy-two hours is required for this development. Infection with two groups causes a double quartan with intermission on the third day; with three groups a quotidian. In both of these forms some of the full grown organisms become flagellate or vacuolated as described by LAVERAN. The nature of the flagella has not yet been determined. Their discoverer considered them appendages of the perfected organism; later observers regard them as degenerative.

The organism of estivo-autumnal fevers when fully developed is rarely half the size of the red corpuscle. During its growth crenation of the corpuscle, brassy color, retraction of hemoglobin, and sometimes central aggregation of pigment are found; but probably the greater part of the development, including the segmentation, is carried on in the spleen and other internal organs. The cycle of development lasts from less than twenty-four to more than forty-eight hours. After the infection is five to seven days old the ovoid and crescentic bodies observed by LAVERAN in the remittents of Algeria are discovered. Quinin has less power over these than over the other forms. The Johns Hopkins investigators are satisfied that the crescents represent a very resisting form of the organism and that they may develop into the flagellate forms. Further observation is needful to determine their significance.

The presence of the plasmic bodies in the blood has been generally acknowledged, but occasionally there arises an investigator who questions their accepted meaning and denies their parasitic nature. The latest of these objectors is Surgeon Lieutenant-Colonel E. LAWRIE, who has been studying the subject at Hyderabad. From similarity of appearance, he considers the white blood cell of the frog to be the escaped nucleus of its red blood corpuscle, and he therefore concludes that the leucocytes of human blood are the nuclei of red cells liberated in the spleen by its blood forming action. The theory which he builds on this assumption, is that the spleen in its disabled condition in malarial disease is unable to turn out perfected non-nucleated red blood corpuscles, and that the plasmic bodies are merely the embryonic, or nucleated, corpuscles which escape from it into the general circulation; the plasmodium being, therefore, not a cause but a consequence of malarial fever.

The form in which these organisms exist outside the body, as in malarious soils, water or air, and the mode or modes of their entrance into the human system are wholly unknown. LANCISI and MCCULLOUGH explained the causation of malarial diseases on the theory of a miasmatic exhalation which disorganized the blood. Our modern researches recognize the disorganization of the blood, but call for a specific

entity as the cause. Investigation into the influence of the ameboid forms, so common in marsh waters on the corpuscles of living blood, appears to be now in order.

SIR HENRY HALFORD AND THE REVIEWER.

Noticing DR. WILLIAM M. MUNK'S "Life of SIR HENRY HALFORD," who was by his enemies dubbed the "Eel-backed Baronet" on account of his deep and oft-repeated bows, the *Saturday Review* (June 13) recalls the story told by MR. BRANSBY COOPER, in his "Life of SIR ASTLEY COOPER," of SIR HENRY'S three profound formal bows to LORD LIVERPOOL when he entered the room in which his lordship was lying on a sofa, utterly insensible, under the attack of apoplexy, from the effects of which he eventually died. The *Review* says that he seems to have contributed nothing to the science which, after all, lies behind the practice of medicine; he relied chiefly on his soothing manners and on what he delighted to call the *vis medicatrix naturæ*, and, in nearly every respect, he might be taken as the "glorified example of the successful medical tradesman." On the other hand, in one respect his profession remains indebted to him; during the long period that he served as President of the College of Physicians he labored hard and successfully to further the dignity and advantages of that great corporation. He was physician to four successive sovereigns, GEORGE III., GEORGE IV., WILLIAM IV., and QUEEN VICTORIA. For twenty-four years he was President of the Royal College of Physicians. In the first year of his practice his professional receipts amounted to £220. They increased annually, and in 1809, his eighteenth year of practice, they reached £9,850, thereafter always exceeding ten thousand a year.

We presume the *Saturday Review* has some good authority for the assertion that SIR HENRY HALFORD was the court physician mentioned by BRANSBY COOPER, but that writer does not say so. The exact quotation is as follows: "He had been seized with a fit of apoplexy while at breakfast. I felt his pulse, and was at once convinced of the necessity for bleeding, and I immediately bled him. He seemed somewhat relieved, for the pulse was less labored, but he did not speak. Shortly after this operation had been performed, one of the court physicians entered the room. He at once made three profound formal bows to LORD LIVERPOOL as he lay senseless on the sofa, to which we had now removed him, and then, turning to me, asked if I were aware of the grave responsibility I had taken upon myself in bleeding the Prime Minister of England before his arrival. I replied that I thought I should have incurred a far greater had I hesitated in doing that which was evidently necessary, and further that I had the sanction and support of DR. DREVER[1] for my conduct. He seemed, however, but ill pleased at what he considered a want of proper courtesy toward himself."[2] The action of the court physician toward MR. COOPER, which was evidently the occasion of his record of the bows, is easily explained when we recall that SIR ASTLEY COOPER had been summoned, and being absent, his nephew, BRANSBY COOPER, then an unknown young man, responded. It must have been a shock to one so long accustomed to the punctilio of the court. It is by no means clear from the record that SIR HENRY, if indeed the court physician mentioned was SIR HENRY HALFORD, was aware, on entering the room, of the comatose condition of the Premier. At any rate, it is a curious instance of the democratic tendency of the times, when we see a tory publication make bold to pillory a man seventy years after his death for an observance of the ordinary etiquette of the earlier half of the century.

SIR HENRY HALFORD was one of a very distinguished family of brothers, the sons of DR. JAMES VAUGHAN, a physician of Leicester. This gentleman had his sons educated with peculiar judgment, and expended his entire income in so doing. It is mentioned that not one of them asked or received further pecuniary assistance from the father after finishing their education and commencing their efforts in providing for themselves. HENRY VAUGHAN was graduated B.A. at Oxford in 1788 and M.D. in 1791. He had acquaintances and friends enough to borrow £1,000 on coming to London, and in 1793 was appointed physician to Middlesex Hospital, and was elected a Fellow of the College of Physicians in 1794. Such were his talents and abilities that at twenty-seven he was appointed Physician Extraordinary to the King. Having inherited a large property on the death of the widow of SIR CHARLES HALFORD, his name was changed from VAUGHAN to HALFORD. His skill in practice was acknowledged by his contemporaries, although no one ever claimed for him the merit of original discoveries. There are many physicians of exceeding skill and learning who are not discoverers, and few of large practice have the time to devote to path-finding. As an orator, he may without question be given the highest rank of any British physician, and in elegant literature he has had few superiors. His orations were models of elegant Latin, particularly the Harverian oration, delivered October, 1800, showing the connection between literature and medicine, and touching with pleasing reference the most illustrious characters of British medicine from LINACRE to WARREN. The stately oration in dedication of the new building of the Royal College of Physicians has the stamp of genius, and no one can read the scholarly essay "On the influence of some of the diseases of the body on the mind" without becoming deeply im-

[1] Lord Liverpool's family physician.

[2] Life of Sir Astley Cooper, Bart., by Bransby Blake Cooper. Vol. II., p. 222.

pressed with the innate goodness of the man and his amiability.

The sneer of the modern reviewer can not now seriously disturb the record of the life of one whose long and useful career was so many years connected with that of the Royal College, and to whom, if for nothing else, the modern medical man is indebted for a type of medical man distinguished above his fellows for deep learning, eloquence, wisdom and that politeness which comes from natural amiability and sweetness of temper.

COMMITMENT OF THE INSANE IN THE STATE OF NEW YORK.

On July 1, the new law, or codification of laws on the above subject, that was enacted by the Legislature of 1896, went into effect. It has generally been felt that that law handed the insane over bodily to the politicians; but the enactment is apparently thought by the Commissioner in Lunacy to be less malign in its probable future operation than has appeared at first sight. He hopes for the best; but it is probable that he will soon feel "the clutch of the ring." Under the new law, the procedure for commitments will be, in brief, as follows:

Application for the commitment of an alleged insane person may be made by any person with whom such insane person may reside or at whose house he or she may be, or by his or her father, mother, husband, wife, brother, sister or child or other next of kin, or by the superintendent of the poor of the county, the commissioners of charities of the counties of New York and Kings, or the overseer of the poor of the town or city wherein such insane person may be. The procedings are to be initiated by a petition of the applicant containing a statement of the facts upon which the allegation of insanity is based, signed and verified by him, to which must be annexed the certificate of lunacy executed by two legally qualified medical examiners. Such papers must then be presented to a judge of a court of record. *i. e.*, a justice of the supreme court, a county judge, a surrogate, or certain judges of city courts which are declared by statute to be courts of record.

Notice of the application should be served personally upon the alleged insane person, and if made by a county or municipal officer, upon the husband or wife, father or mother, or next of kin, if there be any residing within the county, of said person. *The judge may dispense with such personal service, or direct substituted service upon some person named by him.* In such case the judge is to attach to such petition a certificate, stating his reasons for dispensing with personal service, or if substituted service is directed, the name of the person to be served. The commissioner says:

"It is not expected that the examiners will do more than properly fill out the certificate of lunacy, as has been the custom heretofore, and the new form of certificate is substantially the same as has heretofore been in use. The examination must be made by two qualified medical examiners, jointly, and the certificate must be executed and dated upon the day of such joint examination. *The order of commitment must be granted within ten days from the date of the certificate.*

"The petition, the certificate of lunacy, and the various necessary orders, are printed as one form, and will be known as form 472 of the forms of the State Commission in Lunacy, and in ordering blanks it will only be necessary to refer to this form number. The parts of this form, five in number, while they are bound together, are so arranged as to permit of the insertion of additional papers of reference when required, and care should be taken that the page and line where matter is to be inserted are carefully indicated.

"It should be noted that the law requires that the petition and all the papers relating to the commitment of an insane person must be made *only* upon forms prescribed and furnished by the commission.

"It is respectfully suggested that in proceeding under the new statute it should be carefully read and its contents understood before final action is taken, and attention is particularly called to Section 60, of Chapter 545, Laws of 1896, which among other things provides as follows: No idiot shall be committed to or confined in a State hospital."

AN IMPERFECT LIST.

In the May–June issue of the *Bulletin* of the Johns Hopkins Hospital there is given what should be a very useful list of the scientific medical journals in public and private libraries in Baltimore. It includes besides medical journals a large number of scientific publications which are, as the compiler says, "somewhat remote from scientific medicine and biology," and omits many medical journals. In fact it is much fuller as regards foreign than American journals, and here it is open to criticism. A list purporting to be that of the "scientific medical journals," by wilful or inadvertent omission of certain journals that ought to be available in series in Baltimore libraries, while including others no better entitled to the term scientific, is open to the accusation of making invidious distinctions. Certainly some of the less than thirty existing American medical journals here included are no better entitled to be designated as scientific than a large number of those omitted of the series ought to be found in Baltimore libraries.

The phrase "somewhat remote from scientific medicine" covers the astronomic and mathematic publications included in the list, though the adjective "altogether" would have been more appropriate. The numerous natural history and physical publications may have a remote relation to medicine or may contain articles of some medical interest, and their appearance here is less objectionable.

The list is interesting, not only for its omissions of American medical journals, but also on account of

some of the European deficiencies. There is, aside from transactions, etc., a notable dearth of Italian and Scandinavian literature, and some special and general journals of note among the German and French publications are lacking. Such deficiencies are of course of less consequence in Baltimore, only forty miles away from the great medical library of the Surgeon-General's Office, but one can not help noticing them, if they occur in a city that has so many claims to be considered a center of medical learning and progress. It is probable, however, that the list is incomplete and will very soon need thorough revision; but as an experiment it is useful and suggestive. It would be well could it be followed by other similar publications of the resources of other centers in medical literature, more carefully and discriminatingly prepared and covering a wider field, including not only the foreign periodicals but a full series of those published in this country. There are undoubtedly some American medical publications of only moderate scientific interest, but there are many more than seems to be recognized at Baltimore that are indispensable to a reference library with any claims to completeness.

CORRESPONDENCE.

The Pan-American Medical Congress.

TOPEKA, KAN., June 27, 1896.

To the Editor:—Only yesterday my attention was called to the very invective letter under caption of the "Second Pan-American Congress," written by David Cerna, M.D., Ph.D., and published in the JOURNAL May 30. I have been a reader of the JOURNAL for a number of years, but by some coincidence I failed to notice this strange correspondence and was in blissful ignorance of all that had been written about me and my paper. One would suppose that I was guilty of some awful crime committed over two years since from reading this unkindly letter. The editor of the *Kansas Medical Journal*, published in this city, had requested me to write an editorial regarding the Pan-American Medical Congress, and when I handed the copy to the editor he kindly referred to the Cerna letter and asked if I had seen it. Had it not been for this coincidence I would probably not have seen it.

This is my first experience in public notoriety and I do not take very kindly to this method of getting my name before the public, but when a man, claiming to hold important positions in the profession, writes for publication such an article of unkind innuendoes without quoting a single word that I had written regarding my friends in Mexico, it is certainly my duty to at least acknowledge having carefully perused said letter, and perhaps ought not to give it any further consideration. However, when such grave charges as are found in this verbose letter, are made against a member of the profession, and not a word of information relative to the alleged crime, what answer can one give? The excuse made that space would not permit him to quote any part of my paper is the most unkind hit of all. Justice to myself would demand that the entire paper referred to be republished and furnished the profession, that they might judge for themselves regarding the enormity of the crime committed, but I will only briefly refer to some of the most emphatically incorrect points. Before doing this, however, I wish to preface this by saying that I have been appointed by Dr. Liceaga, and also by Dr. C. A. L. Reed, to act as vice-president for Kansas for the Second Pan-American Medical Congress. I accepted the appointment and this explains the editorial which I will again refer to in this letter.

I spent nearly three years in the Republic of Mexico, and I wish to say they were three years of great pleasure. During most of this time I held an official position, which brought me prominently in contact with the best people of Northern Mexico, and I have never had cause to complain of the constantly courteous, and I might say universally considerate, treatment of the rich as well as the poor people of that country. More than this, I have never, by written or spoken word, desired to convey to any one, that the Mexican people are not the most courteous and kindly in the human family, not even excepting our Southern neighbors. In this paper so kindly (?) referred to by Dr. Cerna, I had only the highest praise for the Mexican physicians as gentlemen and as scholars, and only spoke of their methods in the treatment of patients as being in many respects entirely different from our way of doing and jocularly referred to their easy-going habits and, perhaps, careless customs, but in every instance only brought out these facts to illustrate some thought. What I said was true, David Cerna, M.D., Ph.D. to the contrary notwithstanding. Having on several other occasions spoken in public of the kindliness of their people, it was but fair to history and fair to the profession of that country and ours, to speak of some features of the practice on that side of the Rio Grande which had not been before mentioned by any one, and I can assure my Mexican friends that it never occurred to me that I was not treating them in all respects fairly. I took that particular aspect of the subject which, perhaps, was not the most pleasing one, but with no intention of doing any one harm.

I have never had the pleasure of the acquaintance of David Cerna, M.D., Ph.D., but trust that I will meet him in Mexico, and feel assured from my slight knowledge of men and things, that he will fail to find me quite the wild and woolly animal that he has so invectively pictured me to be. Dr. Cerna's tactics in dragging Dr. Warfield into the controversy regarding the Pan-American Medical Congress, because the doctor found it served his purpose in writing a paper on "Typhus Fever of Northern Mexico," to speak of the habits of some of the people of that country, is absolutely reprehensible. Dr. Warfield can defend himself, if he should need any defense, but I do not think he does, as he told the truth, and any one doubting his statements may satisfy himself by a personal contact with the lower class of Mexican people. What has this fact to do with the success of the coming Congress? What has been said of Mexico may truthfully be said of other peoples, and of our own, under some circumstances.

In an article published in a monthly periodical which has an extensive circulation in Mexico and the United States, writing under the caption of "Mexico as a Field for Physicians and Surgeons," I had this to say of the country and people; "Never before in the history of this country have such opportunities been offered for the investment of money and the building of permanent homes by foreigners, as at the present time. Much may be said in explanation of this statement. Suffice it to say, that there are two special reasons for this happy condition of affairs: First, nearly every part of the republic has most magnificent railroad accommodations and telegraphic facilities, making the country completely civilized, and giving its inhabitants every modern accommodation for travel and communication; secondly, the government of Mexico, with that magnificent statesman and philanthropist, President Porfirio Diaz, and his loyal cabinet, who so ably manage the general government, together with the judiciary, among the most scholarly to be found anywhere on the continent, to say nothing of the governors and other officers who are loyal to their country, make this one of the most stable and law-abiding republics under the sun.

"The Mexican people are extremely confiding in their natural disposition, and at the same time they must be entirely satisfied regarding the sincerity of people who are strangers before complete confidence can be secured. In other words, they are very sagacious and discreet, making it necessary for physicians locating in any part of their republic to so conduct themselves that the poor as well as the rich may have no cause to question their good intentions. *In all the cities and larger towns may be found a sufficient number of native physicians to meet every ordinary demand. Many of these physicians are very scholarly and in every way competent to treat successfully the diseases prevalent in that country.* The requirements in their colleges are far in advance of American colleges, so far as the number of years of attendance is concerned. There is, however, an inexplicable fascination which takes possession of the people of that country in favor of foreign physicians, who have established a reputation for unusual skill, both in the practice of medicine and surgery. There has been a very serious prejudice on the part of the more educated against American physicians, but it is rapidly disappearing, the result of the marked advancement on the part of our medical colleges in the past few years."

The foregoing does not sound much like the "bear" Dr. Cerna would make you believe that I am. In the editorial, written before I saw Dr. Cerna's correspondence, and which will be published next week, I have the following to say:

"Dr. Milo Buel Ward of Topeka has received the appointment by both the American and Mexican authorities of the Pan-American Medical Congress, of vice-president for Kansas, and has been furnished a liberal supply of literature to be distributed to any who desire to contribute a paper or attend the meeting, which will be held in the City of Mexico, November 16 to 19, of this year. This literature includes special and gen- and regulations and appointment blanks, and will be of value and interest to all who intend to contribute or attend the meeting. Dr. Ward will gladly supply these papers to all who desire them. This Congress will be a meeting of medical men of great renown from all parts of America and should be attended by every lover of his profession who can possibly go. The extremely polite and ever courteous Mexican insures to all who attend this great meeting a most delightful entertainment and an ever to be remembered pleasant occasion. No one can appreciate the painstaking courtesy of the Mexican people and their ability to make the stay of their friends pleasant and highly enjoyable, unless they visit that country and learn these facts from personal intercourse with them.

"There is no doubt whatever but the second Pan-American Medical Congress will be one of the most enjoyable and profitable meetings of the medical profession which has ever been held on this continent. Kansas should certainly have a liberal number of representatives at this meeting, and the *Kansas Medical Journal* urges the members of the profession throughout the State to at once notify Dr. Ward if they will furnish a paper or attend the meeting. It is desirous on the part of the General Executive Committee that all who are planning to go shall notify them through their local vice-president, in order that the Executive Committee in Mexico may plan to entertain their visitors. Let us again urge our readers to act promptly and decisively regarding this important matter, that our great State with its large number of prominent and active workers in the medical profession may have honorable representation at the second Pan-American Medical Congress."

No further reply to the unkind accusations of David Cerna, M.D., Ph.D., seems to me necessary. I am very fond of that country and admire the intelligent, educated Mexican very much and expect to attend the Congress, and feel assured that my time will be pleasantly and profitably spent, and that all the members of the profession who can find it possible to attend will be repaid for the time and money spent.

Respectfully, MILO B. WARD.

Location of Journal.

CHICAGO, ILL., July 1, 1896.

To the Editor:—I wish to change my vote to Washington, D. C., for the reason that, having maturely considered the subject, I am of impression that the JOURNAL would gain a great deal by being published where its editorial rooms might be in close proximity to the Army Medical Museum, the great Army Medical Library, and the Smithsonian Institution. Financially, as I notice from the advertising columns, the principal support of the JOURNAL comes from east of the Alleghanies, I do not see that the ASSOCIATION would be any worse off; beside that, the editor might have the advantage for the ASSOCIATION of the bright writers of the many scientific departments of the Government, in addition to those now upon the staff; beside that, the power and influence of the ASSOCIATION in the matter of medical legislation would be very much greater with the JOURNAL published at the Capitol, where copies could be sent to members of committees of the House and of the Senate. It seems probable that but a short time will elapse before the ASSOCIATION will be compelled to have a standing committee on Congressional bills, like the British Medical Association, which now has a standing committee on Parliamentary bills. It must be obvious that in the neutral ground of the Capitol the JOURNAL could develop its greatest strength easier and more conspicuously than in any other city. As it can never be a local journal owing to its very nature, and as it is not in competition with local journals, it is all the more necessary that a neutral place of publication be selected. For these reasons, I wish my vote changed from Chicago to Washington.

E. J. DOERING, M.D.

Apply the Baconian Method.

DENVER, COLO., July 3, 1896.

To the Editor:—In the name of scientific medicine I feel it to be a duty to protest against the promulgation of such ideas as those advanced under the heading "Lycopersicum Cardiopathia" in the issue of the JOURNAL for June 27. In this article three pages of theory are offered us without, so far as I am able to find by careful examination, any facts whatever as a basis. In the first place, the substance which produces such dire results, acidum lycopersicum, is not mentioned by either Gould, Dunglison, Fowne, Roscoe and Schorlemmer or any authority that I have consulted, while the article itself gives no further proof of its existence than the bare statement that it has been found in the tomato.

I submit that a single case, carefully observed and recorded, of any disturbance of any kind, if such ever existed, from the ingestion of this universally used article of food, would be worth infinitely more than pages of mere theoretic twaddle as to the effect of the acid with the long name. I doubt if any ill effects have ever been noted, by any competent observer, from the use of the tomato, other than may be accounted for by ordinary indigestion, fermentation, or personal idiosyncrasy. It is time for some one to call attention most vigorously to the point that we will make of medicine more nearly an exact science only by collecting facts and reasoning from them, or, in other words, by following the methods pointed out by Bacon, adherence to which methods has been the *sine qua non* of progress in all branches of scientific knowledge since his time.

If I speak warmly, it is only because I feel that the occasion calls for vigorous denunciation of such pseudo-science.

Yours very truly, J. N. HALL, M.D.

Multum in Parvo.—Dr. J. P. Crozer Griffith reports a case of varicella gangrenosa, diphtheria, rubeola and varicella existing at the same time in a child aged 22 months, admitted to the Children's hospital of Philadelphia.—*Med. and Surg. Reporter*, June 27, 1896.

PUBLIC HEALTH.

Health in Michigan.—Consumption was reported present in June at 208 places; measles at 78 places; scarlet fever at 49 places; typhoid fever at 43 places, and whooping-cough at 36 places.

Street Noises Injurious to Health.—It is stated on the authority of prominent physicians that nervous disorders in New York City are on the increase. Unnecessary street noises are believed to be responsible in a great measure for this condition.

Medical Examiners Appointed.—Gov. Lippitt of Rhode Island has appointed new medical examiners as follows: Dr. Jay Perkins for Providence, Dr. R. G. Reed at Woonsocket, Dr. Charles H. French at Pawtucket, Dr. Nelson Reed at Warren, Dr. John Winsor at Anthony.

Health of New York State.—The monthly bulletin of the State board of health shows the total number of deaths for the month was 9,541, which is an average of about 308 a day. The prevalence of diphtheria has slightly increased, but is confined to the maritime districts. But one death from smallpox was recorded and that was from New York city.

Wisconsin State Board of Health.—The semi-annual meeting of the State board of health was held June 24, at Milwaukee. Dr. Solon Marks is president, and U. O. B. Wingate, secretary. An analysis of the water at Ashland is being made every day by the health officers for the purpose of showing the efficiency of a new method of filtering and the results show a steady improvement.

Typhoid Fever in Plymouth, Pa.—The number of typhoid fever cases in Plymouth is growing alarmingly large, and fears of another epidemic, such as visited the town in 1885, are being entertained by a number of people. The memories of that time are still fresh in the people's mind, and it is no wonder that they dread another such visitation—a visitation that made a hospital of the school house and brought weeks of suffering and death to many homes. There are now in that town upward of twenty-five typhoid cases.

Smallpox and Yellow Fever in Cuba.—The report to the Surgeon-General of the Marine-Hospital service from the United States Sanitary Inspector at Santiago, Cuba, is that smallpox is raging epidemically, and the cases, which can be counted by the hundreds, are increasing daily. "Malarial affectionsof the most deadly character are very common, especially the remittent and pernicious form." From Sagua la Grande the report is that yellow fever is on the increase among the troops at that point. Cienfuegos reports forty deaths from smallpox and increasing yellow fever for the week.

Ireland's Unapproached Record for Legitimacy.—The *Scalpel* for May refers to the low birth rate of Ireland as being partly due to the large emigration of able-bodied adults. Of the children born in 1894, 53,922 were boys, and 51,433 were girls; the predominance of the male sex being thus equal to nearly 2½ per cent. "The chief feather in Ireland's cap is the comparative infrequence of illegitimate births. So great, indeed, is this distinction that the Registrar-General draws special attention to the fact by remarking, somewhat inconsequentially, that 'it is unnecessary to say the proportion compares very favorably with the returns from most other countries.' The illegitimate birth rate for the entire country was 2.7 per cent. of the total, but it varied greatly in different provinces. In Ulster 39 children in each 1,000 were born out of wedlock; in Leinster, 27, in Munster 22; while in Connaught the number fell to one. We are certainly of opinion that, instead of *most*, the official dictum might well have been *all* other countries."

Hygiene Pays.—That public parks in cities are good investments from a sanitary standpoint goes without saying. That they are also profitable as a pecuniary investment is shown in a recent report by J. Clyde Power, landscape engineer, recommending extensions of the park system of Indianapolis. He cites New York as a notable instance of the great increase of value accruing to land in the vicinity of parks. In 1856 the assessed valuation of the three wards adjoining Central Park was $20,429,565; in 1873 it was $236,081,515, a gain in seventeen years of $215,651,950. The natural average increase of three other wards in the city, taken from all the wards, except the ones adjoining the park, showed only $53,000,000, making the earning capacity of the park $183,081,515. In Brooklyn, in 1864, Prospect Park, 515 acres, was acquired and the increase in valuation in three years was 38 per cent.

Annual Quarantine Orders.—In accordance with the quarantine laws authorizing the Surgeon-General to promulgate such additional regulations as may be necessary for the disinfection and detention of vessels from ports suspected but not positively known to be infected with yellow fever, the usual order has been issued. It provides that during the active quarantine season, continuing until November 1, all vessels from ports in the West Indies, on the east coast of Mexico, Central and South America, as far south and including ports in the Rio Platte; ports in Peru, Ecuador, Columbia and on the west coast of Central America and Mexico, arriving at the national quarantine stations, shall be detained and treated in accordance with the provisions of the quarantine regulations for domestic ports.

Dangers from Sewage Farms.—An outbreak of typhoid fever in the village of Wycombe Marsh, Eng., which seems directly traceable to the pollution of a river by the effluent from a sewage farm, leads *Hospital*, June 20, to conclude, first, that sewage farming demands a high degree of skill and care in order that non-poisonous effluents only may be turned into running streams; and, second, that village wells which are in any close contiguity to sewage farms should, if possible, be closed, and an adequate supply of water obtained elsewhere. Civilization must get rid of its sewage; and sewage farms, when scientifically and conscientiously managed, are excellent methods of sewage disposal. But it is probable that in no long time they will have to be submitted to competent periodical inspection by a sanitary authority in order that such calamities as that which has overtaken Wycombe Marsh may, as they ought to, become impossible.

A Scottish Sanitarian's View of the English Disregard for Jenner.—The *Glasgow Sanitary Journal*, for May, says editorially:

"It is a trite saying that the world knows little of its greatest men, and in a very considerable degree that the world has only a short memory for its chief benefactors. The reason is not far to seek. A century after a great danger to public health has been removed, it is difficult to realize the greatness of the danger when it did exist, and the very success of the preventive means is apt to cause forgetfulness of the value of the original benefaction. In Germany, in the present day, vaccination and revaccination are compulsory and smallpox is unknown. How can a German housewife be expected to feel acutely her indebtedness to Jenner when smallpox, to her, is merely a name, and the sore place on her baby's arm is for a day or two a troublesome reality? But in Germany there is a different legislative system from ours. There is an autocracy, not a democracy, and the result is that vaccination continues to be enforced independently of universal knowledge of its benefits. In this country we are under the democracy, and the democracy is apt to have a short memory. Thus it is that within recent years there has been a tendency to decry and neglect the protection against smallpox which was given to us by Jenner. But the very neglect is already resulting in a fresh acquaintance with smallpox, and a fresh appreciation of the value of cowpox. Nowhere in this country has the neglect been so great as in Gloucester, and nowhere in this country has there been recently such a return to the Jennerian practice as in that city, whose cathedral contains a statue of the Berkeley village doctor. He is fortunate in his wisdom who is wise through the experience of others, and in some defaulting districts the Gloucester experience is causing a return to vaccination. A year or two ago in Bristol there was an exhibition of

Jenner relics, and in some important centers of population in both the new world and the old the centenary day of Jenner's first vaccination has been suitably celebrated. It is a curious example of human folly that in the city of Gloucester the celebration should have to take the form of a smallpox epidemic."

Those of us who behold the "celebration" from a safe distance are moved to add: It is a form of poetic justice, the like of which we do not often see!

On the Management of the Tuberculous at Hotels.—The Pennsylvania Society for the Prevention of Tuberculosis, under the presidency of Dr. Lawrence F. Flick, has published some circulars of information for gratuitous distribution. The third tract of the series treats of the duties of hotel-keepers in relation to their infected and non-infected guests. Among the points brought out are the following: The linen, etc., of consumptives should be washed separately and should always be well boiled before being washed. The persons to whom such articles are given to wash should be properly instructed as to what to do in order that they too may be protected. As far as practicable, consumptives in the advanced stage of the disease should be assigned to separate tables, in order that their tableware and linen can be kept apart from those of the other tables and washed separately. All such tableware should be boiled before washing.

"All parts of a hotel or boarding house which are likely to be frequented by consumptive guests should be well supplied with cuspidors in which there should be at all times a germicidal fluid. This fluid should be changed once a day and the cuspidors should be thoroughly scalded with boiling water. In conspicuous places throughout the house and especially in the rooms assigned to consumptive guests there should be notices requesting guests never to eject sputa into any place other than the cuspidor, and suggesting that a handkerchief should never under any circumstances be used for the reception of such sputa where a spittoon is at hand. When out upon the lawn or in any place where a cuspidor is not of convenient access, the sputa should be ejected into paper handkerchiefs, these to be placed, upon returning to the room, in a receptacle furnished for that purpose; such handkerchiefs should not be thrown into the ash bin but burned by the chambermaid. After a room has been occupied by a consumptive, it should be carefully cleansed before another guest is assigned. Where the rules already laid down have been observed, wiping the walls, floor and furniture with a sponge dampened with a germicide solution, whisking the rugs with the same solution and sending the sheets, blankets and pillow cases and counterpanes to the laundry, will be all that is necessary. Where, however, no care has been observed and the consumptive has been careless about spitting on the floor or into linen, silk or muslin handkerchiefs, or where the bed clothing has been visibly soiled with broken down tubercular tissue, it will be necessary to carefully rub the walls with fresh bread and then wash them with a strong germicide solution, to wash the floors and furniture with the same strong solution, to have all the bed linen and blankets thoroughly boiled and to have the rugs and other articles which can neither be subjected to strong germicide solution nor boiled, sent to a renovating place and steamed."

Sensational Statements Regarding Consumption.—In a paper prepared for the recent meeting of the American Climatologic Association and published in the *Boston Medical and Surgical Journal* (June 25), Dr. V. Y. Bowdich earnestly protests against the sweeping statements made as to the contagiousness of consumption and the barbarism and brutality which the laity are thus led into showing in their treatment of the consumptive. He considers the physician who asserts that consumption is "as contagious as smallpox" and that "hospitals for consumptives are a source of danger to the whole surrounding community" is making perfectly unwarrantable statements which can not be borne out by facts; and cites observations made in the communities near two of the largest sanitaria for consumptives in the world, namely, Görbersdorf in Silesia and Falkenstein near Frankfort, to prove that consumption has lessened in amount in the entire population since the introduction of the sanitaria there, largely due to the strict hygienic rules which are used at the sanitaria for the disposition of sputa and which are taught to the inhabitants in the surrounding villages. He admits that it is, doubtless, perfectly true on the other hand, that in various "open resorts" for consumptives where strict methods for the disinfection of the hotels and boarding houses are not enforced the death rate among the inmates from consumption has increased greatly, the most striking cases being those of Mentone and Nice where according to statistics consumption has greatly increased since the places have become such a common resort for phthisical patients, many of whom through carelessness or ignorance become sources of contagion to others. Referring to the experiments of Delepin and Ransome (JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. XXIV, page 450. *British Medical Journal*, Feb. 16, 1895) with reference to the germicidal effects of various agents upon the bacilli of tuberculosis, exposure to the direct rays of the sun for a comparatively short time prove to be the the most effective. As a result of these experiments Dr. Bowdich thinks "it is certainly a legitimate doubt to come to our minds as to how far we need fear infection from sputa which are expectorated onto the open ground exposed to the full rays of the sunlight. Not that I would relax one iota in the restriction of the disgusting habit (to say the least) of spitting publicly anywhere; it is only a question as to its danger under the condition of exposure to the sun's rays. Thus we have scientific facts to help us in trying to show the laity that the consumptive need not be treated like a leper, or as one affected with the plague, but that moderate measures will prevent his being a source of danger to those about him."

The Bubonic Plague at Hong-Kong, in 1894.—Dr. J. G. Adami in the *Montreal Medical Journal* for June, gives an admirable digest of the five principal essays of Japanese, French and English writers that thus far have appeared on the above subject. The closing paragraphs of Dr. Adami's paper are the following: The Hong Kong epidemic of 1894 has gained for itself a place in medical history, from the fact that during its course the bacillus of the plague was discovered first by Kitasato, and independently, after a brief interval by Yersin, while Lowson and Aoyama have given us the fullest studies yet made of the clinical features and the pathologic anatomy of the disease. We have little or no accurate information concerning the plague in China in early times. It is true that medieval writers ascribed the origin of the terrible Black Death (hemorrhagic plague) to China, but apparently without full cause. It has, however, been known to be endemic in one of the southern provinces, Yunnan, for more than twenty years, as also at Pakhoi, on the southern coast. Early in 1894 it appeared at Canton, causing the death of more than 60,000 individuals in the course of a few weeks. Hong Kong, situated as it is at the mouth of the Canton river, and having a population, in the main Chinese (about 150,000 out of a total of 163,000) became infected, most probably from Canton, and, at the latest, early in May. In June the disease was at its height, and it continued through the next two months. After August, cases were few and far between. Altogether, according to Lowson's statistics, which confessedly do not include all the Chinese cases, more than 2,600 persons were admitted to the hospitals, of whom 2,485 died, an appalling mortality of more than 93 per cent. The Chinese were in the main affected. The mortality among the Japanese (10 cases) was 60 per cent. Among Europeans (11 cases) 18.2 per cent. How many Chinese died unrecorded in their quarter of the town will never be known. Aoyama himself suffered severely from the disease and Lowson gives a full report of his case:

"The disease possessed all the typical characters; numerous dead rats and mice encumbered the infected quarters. After an incubation period of three to nine days, the infected individual became the prey of a sudden intense fever, accompanied

often by delirium, but without noticeable rigor. From the first day of the fever a bubo was noticeable, at first in general solitary, later other glands, situated more centrally, became enlarged. In some of the severest cases death occurred before the bubo had time to develop; in such there were frequent subcutaneous and submucous hemorrhages, recalling the Black Death. In 75 per cent. of the cases (Yersin) the bubo was of the nature of an 'emerod in the secret parts' being situated in the inguinal region, more correctly in the femoral chain; the axillary glands were the next most frequent seat of primary enlargement. The swollen glands attained the size of a hen's egg. Aoyama points out that all the Japanese patients had axillary buboes, and from this fact, and from the centripetal extension of the glandular enlargement, he concludes that infection is most often through wounds of the extremities, the Chinese going barefoot, the Japanese being booted. Lowson, however, points out that all the men of the Shropshire regiment infected had femoral or inguinal buboes, and yet they were well booted—a fact which throws some doubt upon the theory of the Japanese professor. Everything, however, points to the disease being of the nature of a soil infection rather than that conveyed by water, and Aoyama's theory fits in best with the fact that in most cases the disease first manifests itself in a solitary peripheral gland. Inasmuch as necropsies in some cases demonstrated the primary affection of abdominal glands, the possibility of intestinal infection must also be acknowledged. Death occurred at the end of forty-eight hours, frequently sooner. If the disease continued for five or six days the prognosis was hopeful. In such cases the tense buboes became softened and suppurative and relief was obtained by operative discharge of the pus. At autopsies performed upon those dying from this disease, the swollen glands were found to swarm with minute bacilli. These bacilli resemble those found in the hemorrhagic septicemias of the lower animals, the bacilli of chicken cholera for example, staining more deeply at the poles, so that when not deeply stained they appear to be diplococci. They decolorize by Gram's method and grow easily in various media. In preparations made from the tissues they frequently appear as though surrounded by a capsule; grown in broth they often form short chains, and, indeed, the appearance of broth cultures resemble those of the streptococcus pyogenes. Mice, rabbits and guinea pigs inoculated either with material from the infected corpse or with pure cultures die in from one to four days. Pigeons are unaffected. The bacilli are to be found in the blood and spleen, though not in such numbers as in the buboes. Preserved in dried films at 28 to 30 degrees C. they die in four days or so. The action of direct sunlight killed them in a few hours. In mice and other small animals the main features discovered at the necropsy are the development of a reddened edema at the point of inoculation, swelling of the nearest lymph gland or glands with profusion of bacilli, congestion of the kidneys and supra-renals and great swelling of the spleen. In man, as shown by Lowson and Aoyama, the chief anatomic changes are very similar, namely, enlargement of one or more lymphatic glands, due to multiplication of lymphoid cells, surrounding reddened gelatinous edema, some enlargement with softening of the spleen, increase in the number of white corpuscles in the blood. The liver and kidneys are congested with parenchymatous degeneration. There can therefore be no doubt that the causative agent of the bubonic plague has been discovered. In general the descriptions given of the plague contain no reference to infection of cattle, but in Yunnan the destruction of these animals has been a distinctive feature, and Yersin determined the presence of the bacillus in cattle in a most virulent form. Lowson failed to obtain more than local results upon inoculating cattle and pigs, and suggests that the cattle suffer from a disease common in Yunnan and due to a similar microbe, namely, the Rinderpest."

Health Reports.—The following health reports have been received in the office of the Supervising Surgeon-General Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Florida: Key West, July 1 to 5, 7 cases.
Louisiana: New Orleans, June 20 to 27, 5 cases, 4 deaths.

SMALLPOX—FOREIGN.

Athens, Greece, January 1 to May 31, 19 cases, 5 deaths.
Bombay, India, May 26 to June 2, 16 deaths.
Calcutta, India, May 16 to 23, 4 deaths.
Callao, Peru, May 31 to June 7, 7 deaths.
Genoa, Italy, June 13 to 20, 2 cases.
Guayaquil, Ecuador, June 5 to 12, 1 death.
Madrid, Spain, June 9 to 16, 10 deaths.
Montevidio, Uruguay, May 23 to 30, 2 cases.
Odessa, Russia, June 6 to 13, 5 cases, 1 death.
Osaka and Hiogo, Japan, May 23 to 30, 32 cases, 16 deaths.
Prague, Bohemia, June 6 to 13, 4 cases.
Rio de Janeiro, Brazil, May 30 to June 6, 9 cases, 4 deaths.
St. Petersburg, Russia, June 6 to 13, 18 cases, 6 deaths.

CHOLERA.

Osaka and Hiogo, Japan, May 23 to 30, 1 case.
Bombay, India, May 26 to June 2, 12 deaths.
Calcutta, India, May 16 to 23, 97 deaths.

YELLOW FEVER.

Cuba: Sagua la Grande, June 13 to 20, 60 cases, 4 deaths; Cardenas, June 13 to 20, 4 cases, 2 deaths.
Brazil: Rio de Janeiro, May 30 to June 6, 12 deaths.

BOOK NOTICES.

Transactions of the Southern Surgical and Gynecological Association. Volume VIII, Eighth Session, held at Washington, D. C., Nov. 12, 13 and 14, 1895. 8vo, pp. 303. Published by the Association. 1896.

Dr. John A. Wyeth, in his paper, "Dr. J. Marion Sims and his Work," says of that distinguished surgeon: "It is safe to say that Marion Sims attained the highest position ever achieved in the history of our profession. He stood alone in this; his reputation as a surgeon was so world-wide that in any capital, in any country within the domain of civilization, he could command at any time a lucrative practice. Assuredly there does not exist in the history of surgery another such distinction. In New York, London, Paris, Brussels, Berlin, Vienna, Rome, Madrid, Lisbon and St. Petersburg he found himself everywhere sought after, not only by the patients he could benefit, but by the leading members of his profession, who were anxious to pay tribute to his wonderful genius. Born amid the most humble conditions in a backwoods county of South Carolina, he died the foremost surgeon of his country and the world."

NECROLOGY.

THOMAS L. HOUGH, M.D., the senior member of the medical faculty of Elizabeth, N. J., died June 12, aged 68 years. He was graduated from Jefferson Medical College, class of 1856. He was one of the founders of the Union County Medical Society, and a member of a variety of charitable organizations, and has been in the forefront of most of the public-spirited movements of the enterprising city during the past forty years. His funeral was very largely attended by the prominent citizens and officials.

J. L. SELMAN, M.D. (University of Louisville Medical Department, Louisville, Ky., 1882), at Chattanooga, Tenn., June 23, aged 36 years. Dr. Selman was city physician of Chattanooga at the time of his death. The Chattanooga Medical Society held a meeting and passed appropriate resolutions.

JOSEPH T. SCOTT, M.D. (Missouri Medical College, St. Louis, Mo., 1856), at New Orleans, La., June 25, aged 63 years. During the civil war Dr. Scott served as surgeon of the First Missouri Infantry; surgeon in Guibard's Battery of St. Louis, and was chief surgeon on the staff of General Frost of St. Louis, also surgeon in Van Dorn's Cavalry regiment. At the time of surrender, in May, 1865, at Shreveport, he was surgeon in General Dick Taylor's Louisiana regiment. Dr. Scott was a member of the Howard Association, and rendered valuable help during the terrible epidemic of yellow fever in 1878. He was some years ago, a member of the board of directors of the Charity hospital.

GEORGE C. SHATTUCK CHOATE, M.D. (Harvard University Medical School, Boston, Mass., 1849), at Pleasantville, N. Y., June 26, aged 70 years. He was for ten years superintendent of the Massachusetts State asylum for the insane at Taunton, Mass. Thirty-six years ago he established his private asylum

near Pleasantville. It was in this sanitarium that Horace Greeley died.

ARTHUR G. KENNY, M.D. (Albany Medical College, Albany, N. Y., 1877), of Watervliet, N. Y., at the Troy Hospital, June 25.

T. B. WILEY, M.D. (Rush Medical College, Chicago, Ill., 1874), at Gibson City, Ill., June 30, aged 52 years.

ASSOCIATION NEWS.

Headquarters of the American Medical Association.—According to a resolution adopted at the Atlanta meeting of the AMERICAN MEDICAL ASSOCIATION, the members are to determine by vote where the permanent home of the ASSOCIATION shall be located. The ballots have now been distributed to the members, who have until July 31 to cast their votes. As soon as the count is completed the result will be announced in the JOURNAL. Members may vote for any place they desire, but it is probable that the choice will be practically limited to either Washington or Chicago. Certainly the former would seem to be the appropriate home for a national organization. The other representative association of the practitioners of America, the Congress of American Physicians and Surgeons, has always held its triennial reunions in Washington, and this society would be wise to follow suit.—*Medical Record.*

SOCIETY NEWS.

The Fourth Annual Russian National Medical Congress was held this year at Kiew and was attended by over a thousand physicians, who discussed various hygienic and social questions as well as the more strictly scientific subjects. The city was *en fête* in honor of the convention, and the general enthusiasm speaks well for the prospects of the International Congress to be held at Moscow next year.

American Public Health Association.—The twenty-fourth annual meeting of this association will be held in Buffalo, N. Y., September 15 to 18. The following topics will be taken up for consideration: "Pollution of Water," "Disposal of Garbage and Refuse," "Animal Diseases and Animal Food," "Nomenclature of Diseases and Forms of Statistics," "Protective Inoculations in Infectious Diseases," "National Health Legislation," "Cause and Prevention of Diphtheria," "Causes and Prevention of Infant Mortality," "Car Sanitation," "Steamship and Steamboat Sanitation," "Transportation and Disposal of the Dead," "Use of Alcoholic Drinks from a Sanitary Standpoint," "Centennial of Vaccination," "Relation of Forestry to Public Health," "Transportation of Diseased Tissues by Mail," "River Conservancy Boards of Health," "Prevention of the Spread of Yellow Fever." The President of the association is Dr. Eduardo Liceaga, City of Mexico, Mexico; First Vice-President, Lieut.-Col. Alfred A. Woodhull of the Medical Department of the United States army, Denver, Colo.; Second Vice-President, Dr. Henry Sewall, Denver, Colo.; Secretary, Dr. Irving A Watson, Concord, N. H.; Treasurer, Dr. Henry D. Holton, Brattleboro, Vt.

Congress of Dermatology.—The third International Congress of Dermatology will meet in London, from August 4 to 8, of this year. The general program has been published in a recent number of the JOURNAL. There will be a museum of drawings, casts, models, naked eye preparations, microscopic specimens, works and atlases pertaining to diseases of the skin. There will also be an exhibition of clinical cases and demonstrations of the same at 9 A. M. and 2 P. M. of August 5, 6 and 7, and at 9 A. M. of August 8. Anyone having anything to contribute to this department, will please address Dr. Jas. Galloway, 21 Queen Anne Street, Cavendish Square, W. There will be an exhibition of cultures and microscopic preparations of organisms connected with the skin and its diseases. Any communications in regard to this department should be addressed to H. G. Plimmer, Esq., Wunderbau, Sydenham, London. The social side of the Congress will be: 1. An informal reception at the International Hall, Piccadilly Circus, on August 3, from 9 to 12 P. M. 2. A reception by the Lord Mayor and Lady Mayoress at the Mansion House, on August 5, from 9 to 11 P. M. 3. A Dinner to the Foreign Members at the Hotel Cecil, on August 7. It is advised that foreigners should arrive in London not later than Sunday, August 2, as Monday the 3d inst. is a public holiday. Information in regard to hotels will be furnished on application to George Pernet, Esq., 77 Upper Gloucester Place, London, N. W.

GEORGE THOMAS JACKSON, M.D.,
Foreign Secretary for the U. S.

International Periodical Congress of Gynecology and Obstetrics.—The date of the opening of the Second International Congress of Gynecology and Obstetrics at Geneva, has been fixed for Aug. 31. The Congress will continue one week, closing Saturday, Sept. 5, 1896. The success of this scientific reunion seems assured. The eminence of the Honorary Presidents, the scientific prominence of the referees and the number of members who have joined, guarantees its success. The sessions of the Congress will take place in the Grand Aula of the University. The first general session, that of the morning of the first of September will be honored by the presence of the President of the Swiss Confederation, as well as the Chief of the Department of Public Instruction of the Canton of Geneva who will inaugurate the Congress by addresses. Morning sessions will continue from 9 A.M. until noon. Afternoon sessions from 3 to 6. The former will be devoted to the discussion of official questions, the latter to other communications. In order to make the first most interesting, the Committee of Organization will endeavor to publish and distribute among the members a synopsis or the "Conclusions" of the Referees. Manuscripts must be delivered to the Secretary at the end of the session at which they are read, and members taking part in the discussion must also present to the Secretary a synopsis of their remarks. An International Exposition of gynecologic and obstetric instruments will be opened during the Congress, and all objects entered for this Exposition should arrive in Geneva prior to August 10, addressed, University, Rue de Candolle, Geneva. Members are advised also that as the Congress coincides with the National Exposition of Switzerland, it will be prudent to engage rooms in advance. For that purpose you may address hereafter: "La Commission officielle des logements ayant son bureau a la gare de Cornavin." Members of the Congress arriving in Geneva without being inscribed can still obtain a membership card, Sunday morning, August 30, and thereafter in the Office of the Treasurer of the University. Ladies' cards will be issued admitting to the receptions and festivities.

PROGRAM.

Monday, 3 P.M.—Reunion of the Permanent Committee and of the founders of the International Congress. At 9 P.M.—Reception at the Palace Eynard.

Tuesday.—Opening of the Congress by President Reverdin. Address by President Lachenal. Addresses by Mons. Richard, Chief of the Department of Public Instruction and Official Delegates. 3 P.M.—Discussion of the First Official Question, viz: "Treatment of Pelvic Suppurations." Referees: Sanger, Kelly, Bouilly. Discussion by A. Martin, Richelot, Lawson Tait, Jacobs, Delettretz, Henrotin, Hartman, Rouffart, Tournay, Henrotay, Desguins, Guilloud, Caromilas.

Wednesday.—Discussion of the Second and Third Official Questions: "Surgical Treatment of the Retro-deviations." Referees: Kustner, Polk and Pozzi. Discussion by A. Martin, Bouilly, Lawson Tait, Jacobs, Edebohls, Gill Wylie, Henry Byford (Chicago), Delettretz, Stepfer, Paul Pettit. "Most

Successful Method of Closing the Abdomen." Referees: Granville Bantock, La Torre. Discussion by Messrs. Martin, Lawson Tait, Richelot, Jacobs, Edebohls, Gill Wylie, Byford, Delettretz. 3 P.M.—Miscellaneous papers.

Thursday.—This day will be entirely devoted to promenade on the Lake at Vevay and excursions to Montreux-Chillon. Special program will be distributed indicating the details of this excursion.

Friday.—Discussion of the Fourth Official Question: "Relative Frequency and Most Common Forms of Pelvic Contractions in Different Races, Groups of Countries and Continents." Referees; Fancourt Barnes, Dohrn, Fochier, Kufferath, Lusk, Rein, Pawlick, Pestalozza, Treub. Discussion to be opened by Berry Hart. 3 P.M.—Miscellaneous papers.

Saturday.—Discussion of the Fifth Official Question: "Treatment of Eclampsia." Referees: Charles, Charpentier, Halbertsma, Veit, Mangiagalli, Parvin, Byers. Leaders in discussion: Tarnier, More Madden, Lindfors, Godson. 3 P.M. —Miscellaneous Papers. 5 P.M.—Closing Business Session. 8 P.M.—Final Subscription Banquet.

Sunday.—Various Excursions, International Regattas, Fireworks, etc. President, Auguste Reverdin; Secretaries, Gynecology, Dr. C. Betrix; obstetrics, Dr. Cordes.

The General Secretaries are: Dr. Betrix, for Gynecology; Dr. Cordes, for obstetrics; Treasurer of the Committee, Dr. Bourcart. Secretary General for North America (through whom all correspondence and business will be directed): Dr. Fernand Henrotin, 353 LaSalle Avenue, Chicago, Ill.

The Cleveland Medical Society held its last meeting for the summer and adjourned until September 11. Dr. J. F. Hobson read a paper on "A Report of a Case of Pott's Disease of the Spine." Dr. W. E. Wirt read a Paper on "An Original Method of Using Dry Heat of High Temperature in the Treatment of Chronic Joint Affections."

MISCELLANY.

Appointment.—Mayor Swift has appointed Dr. John B. Hamilton a member of the Board of the Public Library of the city of Chicago.

Delegate.—Dr. George Ben. Johnston, of Richmond, Va., has been appointed one of the eight delegates on behalf of the government of the United States to attend the session of the International Periodical Congress of Gynecology and Obstetrics, to be held at Geneva, Switzerland, September, 1896.

Antiquity of the Truss.—Poncet has an interesting historic sketch of the evolution of hernial bandages in *Méd. Moderne*, No. 11, with a description of a recently discovered ancient Phenician statuette of a god, at least 3,000 years old, which represents "unmistakably" several ruptures on the abdomen, with a double hernial bandage resembling those now in use.—*Centralblatt f. Chirurgie*, April 11.

Cross of the Iron Crown.—A cablegram has just been received from Buda-Pest, Hungary, announcing that Mr. Andor Saxlehner, of the firm of Andreas Saxlehner, of that city, proprietor of the Hunyadi Janos natural aperient water, has been decorated by Francis Joseph I., Emperor of Austria and King of Hungary, with the Cross of the Iron Crown, Order III, on the occasion of the Hungarian Millenial Celebration now being held in Buda-Pest.

Medical College Appointments.—The following appointments in the faculty of the Albany (N. Y.) Medical College are noticed in the catalogue for 1896-97: Herman Bendell, clinical professor of otology; Andrew McFarlane, professor of physical diagnosis and microscopy; John B. Henessey, lecturer on materia medica; George Newman, lecturer on symptomatology; Clement Theisen, instructor in throat and nose; James M. Moore, instructor in physical diagnosis and clinical microscopy; James Thomas McKenny, of Troy, instructor in physiology; James M. Mosher, instructor in neurology. The Bender laboratory will be in charge of George Blunner, late assistant in pathology and bacteriology at the Johns Hopkins University.

Practicing without Diploma.—Suit for practicing medicine without a diploma and without registration was brought against Edmund Duff of Harrisburg, Pa., by Col. Oliver B. Simmons, Chairman of the Sanitary Committee, and the defendant waived a hearing for trial at court. The action was brought before Mayor Patterson, after Colonel Simmons and the Mayor had heard a report from Sanitary Officer Block, who had investigated the matter and found that Duff was practicing without compliance with the law. The failure to report a case of diphtheria, treatment of which caused the trouble, was also brought out, but Duff asserted that the disease had not been diagnosed until Friday, when the patient died, and the Mayor dropped the case, there not being enough evidence to hold the defendant. Duff made no defense to the charge of practicing without registration and was held under $300 bail.

A New Biologic Laboratory.—The corner stones of the new Hull biologic buildings of the University of Chicago were laid July 3. The laboratories will consist of four three-story structures, of Gothic design, and are the gift of Miss Helen Culver, in memory of her uncle, C. J. Hull. The gift amounted to $1,000,000, of which $300,000 was to be used for the buildings and the remainder to serve as an endowment fund. Since then Miss Culver has given $25,000 more for the buildings, which makes the cost of the structures $325,000. The address of the day was delivered by Prof. George Lincoln Goodale, LL.D., of Harvard. He spoke of the development of the bacteriologic laboratory, its aims and requirements. At the conclusion of the address President Harper spoke of the prospects of this department and said that the erection of these buildings marked the beginning of the long-looked for medical school. The assemblage then moved in procession to the site of the new buildings, where the corner stones were laid with appropriate addresses.

Higher Preliminary Education.—A congress of Missouri physicians met at St. Louis, June 27, and adopted resolutions looking to the higher preliminary education of medical students. The movement was started by the University Medical College of Kansas City, whose president, Dr. J. M. Allen, called a meeting of the fifteen medical schools of the State. Twelve of these schools were represented at the gathering. Dr. J. M. Allen, of Liberty, Mo., presided, and Dr. A. E. Mink, of St. Louis, was secretary. Among others present were: Dr. A. L. Burger, secretary, and Dr. J. P. Jackson, dean, of the University Medical College, Kansas City; Dr. Mark Edgerton, ex-dean of the Kansas City Homeopathic Medical College; Dr. Batey, of the University College of Kansas City; Dr. F. J. Lutz, Dr. L. C. McElwee, Dr. Bond, Dr. Steele, Dr. Loeb and Dr. Hypes.

Varices of the Leg.—Dr. Alexander Hugh Ferguson (*Chicago Medical Recorder*, June, 1896), describes his method of operation. He first ties the saphenous vein in two places near the femoral above the abnormal condition and a section of the vein is removed. Then a semilunar incision is made through healthy skin and extended as far down as is necessary to go until all the varices are partly surrounded, the incision is then deepened to the fascia lata. In the line of this incision all the venous supply is cut off. When the incision is completed down to the deep fascia the entire flap is raised and dissected up. The veins, normal and pathologic, are raised with the flap and the varices and branches dissected from its under surface. In raising the flap the venous communications with the deep veins are severed and ligated. This is a modification of Schedé's operation.

Hayseed Sprouted in the Ear.—Dr. Macnaughton Jones reports a case where the patient had been suffering from noises in the ear for some years, and had other evidences of middle ear deafness. He sought advice for the deafness, being quite unconscious of the presence of any foreign body. On examining the meatus, what appeared to be a pink sprouting mass of fungus was seen with the transmitted light. The appearance was most puzzling, and it was not until the sprouting hayseed was withdrawn that its nature was discovered. It was quite firmly attached to the wall of the meatus, being removed clean with the lever forceps. The patient then remembered having, over two years previously, at harvest time, suddenly felt as if something had entered his ear, and the tinnitus began.—*Jour. of Laryngology, Rhinology and Otology*, June, 1896.

Oxygenized Chloroform.—Dr. Charles S. Elder (*Col. Med. Jour.* June, 1896) says of the new anesthetic: Few patients are gotten completely under the anesthetic by this process. They seldom have perfect relaxation of muscles and loss of corneal reflex To this first is to be attributed the rapid recoveries unattended by nausea and vomiting. It is not true that patients keep rosy lips and cheeks during the anesthesia any more than they do with chloroform, nor do they recover any better or quicker, provided the narcoses be of equal depth and duration. Chloroform as ordinarily given is a more powerful anesthetic than when given by the new process, therefore the anesthetic is apt to be more profound unless it is administered with more care. But to argue that oxygenized chloroform is safer for this reason is to insist that it is better because it is less efficient.

The "Unsurgeonlike Horrors" of Hunter's Time.—The *Clinical Sketches*, in treating of the days before chloroform, reminds of the stern courage that then was demanded of surgeons. It remarks that in studying the histories of surgeons of a bygone age, we are frequently reminded of the horrors of their art before the days of chloroform. "It is not surprising to read that Abernethy 'had a most unsurgeonlike horror' of operations, and that both Cheselden and Hunter entertained similar feelings. Of Sir Astley Cooper's uncle William it is recorded that when about to amputate the leg of a man at the hospital, the patient, seeing the instruments being got ready, suddenly jumped off the table and hobbled away, whereat the surgeon expressed himself as greatly relieved: 'By Gad,' said he, 'I am glad he has gone!'"

Women in Medicine.—Jacobi, of New York, has a bright letter in the *Deutsche Med. Woch.* for June 18, replying to a request for his opinion in regard to women in the medical profession. He evidently thinks they have come to stay, a phase of the struggle for existence governed by economic laws, unaffected by individual or social preferences or prejudices. He expresses his regret that there are too many female medical colleges in this country, some of them which are not up to the standard of the rest, and approves of co-education as stimulating and elevating the male students. He states his impression that the incomes of female physicians average higher than those of the men, and speaks with the greatest respect of those he knows, ridiculing the idea that because a woman is not so large nor so strong as a man, she should therefore be debarred from the medical profession, any more than an undersized man, "as if any of us were Apollo, Hercules and Methusaleh combined."

Heroism of the Daughter of Dr. Herman Knapp.—Dr. Knapp, the well-known ophthalmologist of New York city, met with a narrow escape from death by drowning on June 20. He would, without doubt, have lost his life but for the presence of mind and heroic conduct of his daughter Ida, a young lady of 20, who was with him at his summer cottage at Monmouth Beach, New Jersey. As the day was unusually warm he decided to take his first ocean bath of the season, and his daughter watched him from the shore. Dr. Knapp is an expert swimmer, and went out some distance in the water, but as he was on his way back she noticed that he showed signs of distress. Immediately she secured a life preserver which was lying near by on the sand, and having tied a line to it, plunged with it, dressed as she was in house attire, into the sea. Wading in the water up to her neck she just managed to throw the life-preserver to a point where her father, who by this time had sunk twice, was able to grasp it. She then struggled bravely for the shore, carrying the line with her, and both she and her father were dragged to land in an extremely exhausted condition by some fishermen who had come to the rescue from a distance.

Not Liable for Removal of Injured Employe.—One of the grounds on which recovery of damages was sought to be had in the case of York v. Chicago, Milwaukee and St. Paul Railway Company, which was before the supreme court of Iowa May 25, 1896, was because the company's surgeon, who was employed and paid by it to treat its injured employes, as an act of charity or humanity, wrongfully and negligently moved an injured employe from another doctor's office to a hotel, which act, it was alleged, contributed to produce his death. It was not contended that this surgeon was not a skillful one, or that the company did not exercise due care in employing him. Under these circumstances, the supreme court of Iowa holds the company not liable. It says that it understands the rule to be well settled by a large number of cases that, under such circumstances, the defendant is not liable for acts of negligence of the physician who is employed to treat gratuitously its injured employes.

Cancer of the Pregnant Uterus.—Dr. George H. Noble gives details of 166 cases occurring since 1866, and concludes: "A summary shows that vaginal hysterectomy should be safe in the early months of pregnancy and the puerperal state, when there is a reasonable hope for the mother. The abdominal hysterectomy should be done under the above conditions when the uterus is too large to be rapidly and safely removed through the vagina. That at or near the end of pregnancy Cæsarean section (conservative) should be resorted to when the child's interest is to be considered. That Cæsarean section with Freund's operation is permissible when the disease is confined to the uterus and the child viable. That in doubtful cases cutting of the cervix and rapid delivery may be judicious when the incision can be made in unulcerated or non-infiltrated tissue. That as there are four chances to one against the life of the fetus, and as an equal or greater number of mothers may be ultimately cured in the early stages of the disease, the safety of the fetus should not be allowed to hazard the life of the mother. And that, upon the other hand, the futile efforts directed to the interest of the mother when her case is hopeless should not jeopardize the safety of the fetus in the latter months of pregnancy."—*Amer. Jour. of Obstetrics and Diseases of Women and Children*, June, 1896.

Study of the Thermodynamics of the Muscles.—Störring publishes in the *Arch. f. Phys.*, 1895, page 499, the results of his thermoelectric measurements of the generation of warmth in the muscles during isotonic and isometric contractions, with stimulus of varying strength and frequency, prefacing his report with a description of the Fick-Gad theory in regard to the muscles. He states that the so-called "negative variations in warmth" are only produced by defective manipulation of the instrument, thus agreeing with Heidenhain in opposition to Danilewsky. The results of his investigations are that the amount of warmth generated increases proportionately to the amount of tension during isometric contractions with increasing stimulus. During isotonic contractions it is more rapid at first, but with strong stimulus it is in proportion to the "height of lift." (Nawalichin and Danilewsky.) The muscles were also measured after having been slightly fatigued by

ten to fifteen contractions, this condition being the same as when the first increased height of lift had returned to its original condition. Heidenhain had stated that the amount of warmth generated diminished more rapidly than the height of lift in fatigued muscles, but these investigations resulted differently, increased warmth being generated in the fatigued condition. The article concludes with a discussion of the possibility of applying these results in confirmation of the Fick-Gad theory, as an explanation of the processes that occur during contraction.—*Centralb. f. Phys.*, May 2.

Therapeutic Value of Scopolamin.—It is the best of our mydriatics. It acts promptly and efficiently, dilating the pupil *ad maximum* within fifteen minutes and paralyzing the accommodation within one hour. In almost every case the patient regains the ability to read within seventy-two hours. In its effect upon the accommodation, scopolamin stands midway between homatropin and atropin. The cyclopegic effect of homatropin lasts about twenty-four hours; often it fails to paralyze the accommodation. Atropin will paralyze the accommodation with certainty, and the effect lasts ten days, often two weeks. Repeated instillations of homatropin or atropin are necessary. In the case of scopolamin one instillation of one drop of a one-fifth per cent. solution will do the work. Less conjunctival irritation follows scopolamin than the other drugs mentioned. As a mydriatic for refraction work it is *facile princeps*. It is even more useful in iritis; one drop twice a day will often dilate the pupil when repeated applications of atropin fail. Do not use this drug lavishly, for it will produce toxic symptoms if applied carelessly. In the strength of one-fifth of 1 per cent. use only one small drop. In children and in delicate adults a weaker solution, one-tenth of 1 per cent., will be sufficient.—Dr. James Moores Balls in the *Tri-State Monthly* for June, 1896.

Rupture of Quadriceps Extensor.—Dr. J B. Walker says: In comparing the averages of 255 cases of rupture of the quadriceps extensor muscle and its tendon above and below the patella, we find that under the mechanical mode 72.5 per cent. recovered completely, 12.5 per cent. in three months and 32 per cent. within six months. Whereas under the operative method 86 per cent. recovered completely; 50 per cent. within three months, and 100 per cent. within six months. In recent cases where there is not much effusion and the joint is apparently not opened, where the separated ends can be approximated and detained by suitably adjusted pads, the mechanical treatment may be carefully considered. In the hands of the intelligent general practitioner this method may be expected to bring about a complete recovery in the larger number of cases. From nine to twelve months will be required to reëstablish fully the normal functions. The skilled aseptic surgeon who primarily resorts to the operative method in suitable cases (but the age and vitality of each patient must be most carefully considered) may quite reasonably hope to obtain a better result in a larger number of cases and save his patient three to six months' time. Catgut, kangaroo tendon or silkworm gut should be used and when there is much effusion drainage should also be employed.—*Am. Jour. of Medical Sciences*, June, 1896.

Authority to Employ Physicians for Indians.—The provision in Section 5 of the Appropriation act of Congress approved March 3, 1875, to the effect that the number and kind of employes at each agency shall be prescribed by the Secretary of the Interior, the United State circuit court of appeals holds, in the case of United States v. Patrick, decided March 30, 1896, furnishes ample authority for the Secretary of the Interior to employ physicians to attend Indians. It also holds that by approving the vouchers and directing the payment of the bills for a term of years of a physician employed by an Indian agent from time to time during those years to treat the Indians in need of medical services, the Secretary of the Interior sufficiently prescribed that one of the employes at the agency in question should be a physician, to be called by the agent from time to time, to render such medical services as the Indians required. And the court further holds that the Secretary of the Interior having authority to employ physicians, for the United States, at an Indian agency, and his subordinate, the Indian agent at such agency, having employed them, and the Secretary having approved their bills, and directed the agent to pay them out of the public funds, the United States and the Secretary were bound by his acts, both because they thus ratified them and because, by their action, they induced him to expend money for this purpose which he would not otherwise have disbursed.

Superintendent's Power to Employ Physician and Nurse.—The physician called by a man injured while in the employ of an electric light and power company testified that he called on the superintendent or general manager of such company and told him that he would have to have a nurse, and that the official told him to employ one, and that they would see to the physician's bill and the nurse's bill. This conversation the official denied. The trial judge instructed the jury, when an action was brought by the nurse to recover from the company for his services, that so far as the question of authority was concerned, he could not say that there was no evidence from which they might infer that the superintendent or manager referred to was not authorized to make a contract, but thought that they might draw the inference that he was authorized to make such contract as the plaintiff contended was made. This the Supreme Court of Michigan decided, June 2, 1896, Hodges v. Detroit Electric Light and Power Company, was correct. The court now clearly favors the view that it is within the general scope of the employment of such an official to make such a contract as that for the employment of the nurse or physician, a proposition upon which, in a railroad case, it some years ago was equally divided. Nor does it think that the question of power is affected by the fact that the injured man was cared for at his own home. But it does not think that the physician should be allowed to testify that he charged, upon his own books of account, his services to the company, lest the jury regard that as evidence that the contract was made as contended.

Courts of Equity Refuse to Restrain Board of Health.—Upon the question of judicial interference by injunction to restrain the abatement of what the landowner or occupant denies to be a nuisance, the cases are comparatively few, and most of them deal with obstructions to streets, highways or waterways. A patient examination of the whole course of decisions on the general subject of the police power and the summary abatement of nuisances, Chancellor Nicholson, of the court of chancery of Delaware, says has left with him no doubt that a court of equity, upon an application for an injunction to restrain a board of health or other municipal body from the summary abatement of what it has adjudged to be a nuisance detrimental to the public health, will decline to restrain the proposed action of the local body unless it is made to appear clearly that it has acted wantonly and in bad faith, or has transcended its jurisdiction. He also says that the adjudication by the board of the fact of nuisance will not protect it as will the judgment of a court, and in all cases it acts at its peril. In this case, Liebig Manufacturing Co. v. Wales, decided March 14, 1896, the court of chancery refused to grant a preliminary injunction which would restrain the city board of health from abating the emanation of odors or gases from a manufacturing establishment which it had declared to be a nuisance, detrimental to the public health, especially in view of the fact that the almost unlimited range of human ingenuity, in the present age of scientific discovery, seems to be equal to rendering

almost any trade innocuous in almost any locality, and in view of the further fact, that of it not being shown that the odors or gases in question were not or could not be a nuisance, whereby the public health was or might be injured.

Skiagraphy.—Dr. W. W. Keen, referring to plate made by Dr. A. W. Goodspeed of the University of Pennsylvania, said: "One of the most important points to be observed about the skiagraph is that the upper opening of the pelvis is so clearly seen that a measurement could be made with absolute accuracy in order to determine whether a fetus could be delivered or not in the case of a deformed pelvis. If the dimensions of the skiagraph should not be absolutely the same as those of the original pelvis, a proportionate allowance could be readily made by measuring the distance between the crests of the ilia, which could be measured with accuracy on the body or taken as a standard. Any fracture or deformity of such a pelvis could be determined very readily. Osteo-sarcoma of the ilium, fracture, or any other disease or injury altering its outlines would be perfectly demonstrable. It is doubtful whether disease of the hip-joint itself could be made out from such a skiagraph; but fracture of the neck of the femur or of the greater tuberosity could be determined very readily."—*International Medical Magazine*, June, 1896.

Etiology and Pathology of Cancer.—Five chief theories have been advanced to explain the etiology of cancer. 1. Conheim's theory of the origin of tumors in inclusions of embryonic tissue; 2, a specific bacterium; 3, protozoa; 4, yeasts; 5, a vegetative cell. The theory that has received the most attention for the past few years is that cancer is caused by protozoa. Ruffer has described the appearance of cancer bodies which he regards as sporozoa; spherical bodies with small nucleus and a distinct capsule. It is generally in the center of a parasite. Many of the appearances of certain kinds of cancer bodies may be explained by cell invagination. The history of the pathology of cancer differs from most other diseases in that we have had no analogy in other diseases to lead us. There are no bacteria which produce results similar to an epithelial tumor. One of the boldest conceptions of the nature of cancer is that of Adamkeivicz, who states that what we regard as epithelial cells are really parasites and that what has been regarded as round cell infiltration around the growth is the space of the parasite working its way into the tissues. The part that the glands take in the pathology is not determined. Some trace the source of cutaneous cancer to the sebaceous glands, some to the rete mucosum of the epidermis and some to the sweat glands. We find blood changes in carcinoma, but no observations have so far been made to determine whether these changes precede the development of the tumor or not. The cancerous cachexia is sometimes attributed to the presence in the blood of a toxin produced by the so-called sporozoa.—*Dr. Charles J. Foote in Yale Medical Journal*, June, 1896.

A Study of the Blood in General Paralysis.—Dr. Joseph A. Capps summarizes his researches as follows: In general paralysis, 1, the hemoglobin and red corpuscles are always diminished; 2, the specific gravity falls slightly below the normal; 3, most cases show a slight leucocytosis, amounting on an average to about 22 per cent. above the normal. Early cases may have no leucocytosis whatever. 4, in the differential count a decrease is found in the lymphocytes along with a marked increase in the large mononuclear cells. The eosinophiles in a few cases are very numerous. In convulsions and apoplectiform attacks, 1, the red corpuscles and hemoglobin are usually increased at the time of a convulsion. During an apoplectic attack of long duration they are both somewhat diminished. 2, the specific gravity is variable, sometimes increasing, sometimes diminishing at the time of an attack; 3, there is a leucocytosis after convulsions and apoplectic attacks, which is as sudden as it is usually pronounced. It certainly does not appear until within a very short time preceding the convulsion, probably not before it actually takes place; 4, the degree of leucocytosis and the period of its continuance, as a rule, vary directly with the length and severity of the attack; 5, in the production of the leucocytosis the large mononuclear cells are increased relatively more than any other variety; 6, the fact that after convulsions and apoplectic attacks in general paralysis there is not only an increase in the number of white cells but a change in their character, as shown by the differential count, and at times abnormal cells appear, is an argument against the theory that leucocytosis is merely a change in the distribution of the white corpuscles.—*The Am. Jour. of Medical Sciences*, June, 1896.

Another Death from Antitoxin.—Dr. W. J. Nolan of Chicago writes the following to the New York *Medical Journal:*

285 Loomis St., Chicago, June 24, 1896.

To the Editor of the New York Medical Journal:

Sir: In view of the discussion now going on in the *Journal*, of which I have been three years a reader and subscriber, I frankly indorse the views of Dr. Winters in regard to antitoxin in diphtheria. Of one case I must write in terms of strong condemnation. The facts are as follows: I was called to see a boy, 8 years old, pulse rapid, temperature 105 degrees, and the laryngeal appearance quasi-diphtheritic. I began the ordinary treatment, in which quinin, carbolic acid and iron formed chief parts. The result next morning was very satisfactory; all alarming symptoms were decidedly not much in evidence. Some time in the evening of this *better* day, our antitoxin friends raided the house and began their injections *à l'outrance*. They did not inform me, I need scarcely say; but like birds of evil omen, they swooped down on a defenseless widow and daughters, and injected mightily, nay, as the sequel proved, mortally. Need I express an opinion after this on the discovery, or at least its manipulators?

W. J. Nolan, M.D.

Mastoid and Intracranial Complications of Middle Ear Suppuration.—Otoscopy affords one of the most valuable means of diagnosis. If the deeper portion of the canal is narrowed by the sinking of the superior and posterior walls, mastoid inflammation almost certainly exists. Of almost equal value is the tenderness of the mastoid on deep pressure over the region of the antrum. In palpating the mastoid the pressure should be made so as to communicate no motion to the auricle. If the case is seen early an attempt may be made to abort the attack by means of cold applications, but they should not be continued longer than forty-eight hours. The gravity of the mastoid operation has been greatly overestimated. Under proper aseptic precautions it is absolutely free from danger, and in doubtful cases is justifiable as a means of diagnosis. All softened bone should be removed from the channel leading from the antrum to the tympanic vault in order to establish free drainage through the artificial opening. The signs of intracranial inflammation are obscure in the early stages. When the process is acute a purulent collection within the brain substance is characterized by considerable temperature elevation. Intracranial complications are almost invariably fatal unless relieved by surgical interference. Operations should be performed early.—Dr. E. B. Deuch in *Am. Jour. of Obstetrics and Diseases of Women and Children*, June, 1896.

Diluting the Blood in Infections.—Very large doses of artificial serum have been found to be extremely beneficial in serious conditions, retarding death and rendering most important services, while perfectly harmless. If the kidneys are still working well, an injection of several liters will attenuate the infection and perhaps extinguish it altogether. Intravenous injections produce the most rapid results; several may be needed, and to secure the most complete results it is well to supplement them with small subcutaneous injections every two hours. Lejars recently performed a laparotomy upon a young man for ruptured intestine in the midst of acute peritonitis, keeping the strength up and attenuating the infection

by injecting 26 liters of serum, resulting in complete recovery. He reports also a case of acute osteomyelitis of the femur, with continuous fever at 104 degrees and abscesses, which received 14 liters in five days; the fever declined, the infection diminished and the patient is now recovering. A man of 52, run over by a train and severely injured; fever, delirium, double amputation, etc. Fourteen and one-half liters were injected in five days and patient made a fine recovery. A young woman operated upon for an immense ovarian cyst, with every symptom of rapid, fatal termination, received an injection of 3 liters of serum at one time, and 2 more liters two hours later. Improvement followed at once and patient is now almost recovered. Charrin protests against the use of the word serum to express the simple aqueous solution used for this purpose, saying that the physiologic serum differs from it so completely that it is unscientific to designate them by the same term. He calls attention to the different results attained by administering the solution in varying quantities and ways. He has found that even a few c.c. will retard the death of animals infected by a microbe or intoxicated by the secretions of bacteria; large amounts possibly produce their effect by modifying the osmosis in some way.—*La Semaine Médicale*, May 13.

New Investigations of Cholera "Antitoxin."—Pfeiffer and his adherents believe that the toxins of the comma bacillus reside in the bodies of the bacteria, and do not pass unchanged into the culture fluids, while Behring's pupil, Ransom, asserts that the choleraic toxin is present in solution in the dead bouillon cultures. The results of recent experiments at the Paris "Institut Pasteur," based on the principles of Behring's antitoxin, confirm this latter view. Large animals, especially goats and horses, were immunized with cholera filtrates until in three to six months their serum became distinctly antitoxic. One c.cm. administered with a fourfold fatal dose of the toxins was sufficient to neutralize its fatal effects, although not to prevent the appearance of symptoms of intoxication. Experiments with young rabbits inoculated with 4 to 8 c.cm., and then fed with cholera vibrios a few days after, resulted in the survival of 56 per cent. and the disease noticeably attenuated in the rest. Sixteen per cent. of the rabbits not treated with serum succumbed at once to the infection. Some experiments with serum presented by Pfeiffer resulted in the survival of 45 per cent. when the serum was injected simultaneously with the toxin per os, and 24 per cent. of the control animals resisted the infection. But if injected twenty-four hours after inoculation, or with the appearance of the first symptoms of the disease, the animal could not be saved at all. The results of the series of experiments are so far from satisfactory that no attempt is made in the report to apply the conclusions to cholera in human beings.—*Deutsche Med. Woch.*, June 11.

Protracted Simple Continued Fevers.—Dr. J. M. DaCosta says that: "It is a mere matter of surmise what, in any of the varieties of the prolonged simple continued fever, causes the fever. That it is due to a disturbance of the heat-centers seems certain. But what gives rise to this disturbance? Is it one cause or are there several? Leaving out the hysterical cases and those of nervous origin, it appears to me likely that the fever originates from causes within the body; that either as the result of fatigue or overwork, or from impure water, or some preceding digestive disturbance, leucomaines form from vitiated secretions, of a character to disturb the heat-centers. Whether in the continued fever of the tropics heat acts also in this way, or more directly, or through blood-changes produced, is a matter on which we can, with our present knowledge, only speculate. Both here and in all these prolonged continued fevers there is a great field for chemical research, especially in the leucomaines of the uric-acid group. The treatment of the prolonged simple continued fevers is purely symptomatic. Quinin has no effect on them, nor have the ordinary antipyretics more than a temporary influence. Phenacetin and salol do most good, particularly in cases with headache. They are best given in small doses, a grain or two, frequently repeated, until their effect is manifest. Better still, where it can be efficiently carried out, is the cold-bath treatment, not only to lower temperature, but for its revulsive and alterative influence. Purgatives, unless contraindicated by weakness, always form part of judicious treatment."—*The American Journal of the Medical Sciences*, June, 1896.

Dentists can not Prescribe Whisky for "Toothache."—On a Sunday of last year a resident of Hendersonville, N. C., had an aching tooth, and went to a dental surgeon, licensed by the State Dental Association, and asked him for a prescription for whisky. The doctor examined the tooth, and told the man that he would give him a prescription for half a pint; but, on the man's insistence, he finally gave him a pint. The sequel of this was the indictment and conviction of the person who filled the prescription for selling liquor on Sunday illegally. Appeal was taken to the supreme court of North Carolina. April 21, 1896, it rendered its decision of "No error." All turned on whether a dentist is a physician, or not, within the meaning of a statute prohibiting the sale of liquor on Sunday, unless prescribed by a "physician." The court quotes the definition of Webster's Dictionary: "A physician is one authorized to prescribe remedies for and treat diseases; a doctor of medicine." A dentist or dental surgeon, it says, is one who performs manual or mechanical operations to preserve teeth, to cleanse, extract, insert, or repair them. The statutes of North Carolina recognize that dentists are not included in the term "physician," by providing separate enactments for each.

If dentists came within the term "physician," as used in the statute above mentioned, the court goes on to say that "toothache" would become more alarmingly prevalent than "snake bite;" and that it would with usage become more dangerous, it says, is evident from the fact that the very first dental surgeon's prescription for toothache, coming before the court, is for "one pint of whisky." The size of the tooth was not given, nor whether it was a molar, incisor, eye tooth, or wisdom tooth; and yet, the court takes judicial cognizance that there are thirty-two teeth in a full set, each of which might ache on Sunday. The duties of a dentist are limited, is the conclusion, to the "manual or mechanical operations" on the teeth. Whenever the use of liquor is necessary, it being a remedy to act on the body, and only indirectly in any case for the teeth, within the purview of the statute, it must be prescribed by a "physician," to authorize a sale on Sunday, under such a statute.

Hack's Truss Improved by Wolfermann.—The *Centralbl. f. Chirurgie*, for April 11, describes a truss for inguinal hernia which absolutely prevents the escape of the intestine in all positions, according to the inventor. The principle followed in its construction was to approximate as closely as possible the effect produced when the hernial sac is pushed into place and held with the fingers. The pad of porous rubber, extremely soft and elastic, is not fastened as usual, directly on the long spring that embraces the pelvis from the crest of the ilium to the trochanter. It has two plates at the back, exactly similar, one fastened to the pad as usual, while the other, on which the long spring is mounted, is only connected with it by a hinge at the outer end. A double coiled spring near the hinge tends to hold the two duplicate plates apart. Thus the only actual connection between the pad and the long spring is the hinge between the duplicate plates at the outer end. The spring between them therefore imparts an extra elasticity to the free pad, which enables it to adjust itself automatically to any position of the wearer, even the most unusual. The two plates are not exactly flat, but present a slightly convex surface

toward the abdomen. None of the trusses in use produce an even, gentle, incessant compression of the inguinal canal *its entire length*, such as is secured with this one which Wolfermann hopes will open a new scientific era in the treatment of hernia. He ridicules the old fogy way in which it is still treated, the only reason he says, why Hack's truss has not been universally adopted. He has secured many complete cures with this truss worn day and night, as it produces absolutely normal conditions for the intestine. It is only contraindicated in cases where there are adherences or inflammation, which require more radical treatment. In cases of congenital hernia, he applies this truss even to infants a month old. if the testes can be forced into the scrotum by pressure on the inguinal canal, but there is no use in applying a truss if the testes are still in the inguinal canal. In cases of old ventral hernia when the abdomen can not contain the viscera, he orders a suspensorium buttoned to a sling around the neck.

Sequel of the Langerhans Case.—After a long delay the official report of the postmortem examination in the case of the child of Professor Langerhans, who died suddenly after an injection of diphtheria antitoxin, has been published in the *Berliner Klinische Wochenschrift*. The Berlin correspondent of the London *Lancet* (June 20) says the examination was performed by Professor Strassmann and Dr. Mittenzweig, medical officers to the Berlin law courts. The report states that previous to the fatal injection the child had taken his dinner, followed shortly afterward by some milk and cake. Death took place during a severe fit of coughing, and the necropsy showed that the trachea and bronchi were entirely filled with a gray substance, which was proved, by microscopic examination, to consist of particles of food, a good deal of the same being still present in the stomach. The uvula was swollen. The medical experts, therefore, declare that the child died from suffocation. They are of opinion that the boy vomited after the injection and that, being in a fainting state from the pain of the injection, he was not able to get rid of the vomited matter, but drew it into his larynx in the act of inspiration. They did not find any embolus of air in the pulmonary artery, as was suggested, nor was there any confirmation of the opinion that death had occurred from syncope. They therefore advised the court not to hold anyone responsible for the child's death. According to the statement of the Control Office the serum was of normal quality and the injection was, in the official opinion, justified by the present state of medical knowledge.

A Rare Form of Pseudo-Parasitic Infestation.—The Paris letter of the *London Lancet* for May 9, narrates a curious incident growing out of an unusual form of acarus infection. A young girl, native of Barfleur, came on a visit to her parents from Cherbourg, where she was in service. During her stay at home she consulted a medical man with a view of ridding herself of a parasite which she had brought from Cherbourg, and which, having multiplied with prodigious rapidity, had infested the house of the patient's parents and also that of a relative. Sulphur was burnt in the house, and the linen and flooring was washed with sublimate solution. The plague, continuing with undiminished intensity, the neighbors ceased visiting the infected houses and sent the denizens thereof "to Coventry." The authorities then took the matter in hand and delegated M. Edmond Perrier, member of the Institute and Professor at the Museum of Natural History of Paris, to investigate this mysterious malady. He soon discovered that the origo mali was the glyciphagus domesticus, an acarus closely allied to the acarus scabiei, but, unlike the latter, provoking scarcely any itching or cutaneous lesions in its hosts. This acarus is, it appears, very commonly present in houses, and it is frequently met with in the interstices of hair combs which are badly kept. It multiplies especially in houses in which organic debris accumulate. In groceries an acarus, the glyciphagus prunorum, which is perhaps identical with the glyciphagus domesticus, often flourishes on dried fruits, such as prunes and figs. Feeding exclusively on organic matter it is only a pseudo-parasite. Besides the glyciphagus domesticus there was discovered in these same contaminated houses at Barfleur a false scorpion, the othonius, which had invaded them in the train of the first named parasite. The othonius, otherwise called the *puce des bibliothèques*, is the declared enemy of the glyciphagus domesticus, upon which it feeds exclusively. Three millimeters long, and resembling a tailless scorpion, it is recognizable by its long fore-claws shaped like a lobster's. The patient had at Cherbourg been a servant in a pork-butcher's, and it was probably at the charcuterie that she became infected. Her scalp was so full of acari that when she shook her head a cloud of them fell on her shoulders. Her father, a respectable fisherman, had his eyebrows attacked, the only symptoms being a slight irritation. A garment left by the girl at an aunt's had sufficed to infect an exceptionally clean house. M. Perrier ordered the evacuation of the houses and sulphur to be burnt during six hours in the sealed-up rooms, with the result of killing every acarus, as also the othonius. An eau de cologne and sublimate lotion relieved the persons of the sufferers of the parasite, although the treatment had to be prolonged in the case of the girl. The case is interesting in that the acarus caught at a pork-butcher's, had lain dormant for some time on the hair-comb, and transferred thence to the scalp had thriven therein for a period of eighteen months and invaded consecutively the garments. From the garments the parasite had spread to two houses and their inhabitants, and the othonius had promptly followed in pursuit.

No Appeal from Commitment of Private Patient.—The supreme court of Michigan holds, in case of Sparrow v. Ingham Circuit Judge, decided May 12, 1896, that section 6,779 of Howell's Annotated Statutes of Michigan, which provides that "In all cases not otherwise provided for, any person aggrieved by any order, sentence, decree or denial of the judge of probate, may appeal therefrom to the circuit court for the same county," does not apply to an order declaring a person insane and committing such person to one of the State asylums as a private patient. The supreme court says, among other things, that he would be very obtuse who did not perceive that the chief object of the statute of 1895, under which the commitment is authorized, is to furnish in the early stages of the disease the best medical treatment available, in order to effect a cure and prevent, if possible, the terrible result of permanent insanity. If appeals are allowed in these cases, they may not reach a trial and determination in the circuit court for one or two years. A writ of error will then lie to the supreme court. If error is found, a new trial must be granted, and it may be years before a final determination can be reached. Meanwhile the sick person, unless dangerous to the lives and property of others, must remain without treatment, and permanent insanity may result, where prompt treatment by skilled physicians might cure the malady. It is not reasonable to suppose or infer that the legislature intended to provide for any such condition of affairs. The argument that, holding the inquest of the probate court final will result in confining sane persons to a living grave within the walls of an asylum, the supreme court declares has no merit, and the thing itself scarcely possible, under the humane provisions of the law of that State. Its theory is that neither the court nor the physicians have any object in adjudging a sane person insane, nor have the skilled and learned physicians in the asylums any object in keeping any sane person within their walls. Furthermore, the court calls attention to the fact that one of the humane provisions of the law under consideration is that it permits the person who has been adjudged insane to appeal to the probate court to determine whether he is healed, and that from that adjudication, if favorable, there is no appeal.

Dr. Jenner's Poesy.—A recently discovered file of Jenner's letters shows that that eminent man occasionally dipped into versification. One of these letters written *circa* 1789, to a lady to whom he had sent a couple of ducks, reads as follows:

"I've dispatched, my dear madam, this scrap of a letter
To say, as Miss Kent is so very much better,
A regular doctor no longer she lacks,
So I've sent to attend her a couple of quacks."

The lady replied:

"Yes, 'twas politic, truly, my good friend,
Thus, 'a couple of quacks' to your patient to send,
Since there's nothing so likely as 'quacks,' it is plain,
To make work for a regular doctor again."

Right of Experts to Extra Pay.—A decision of importance to all persons who are liable to be called upon to go on the witness stand as experts has been rendered by the supreme judicial court of Massachusetts in the case of Barrus v. Phaneuf, May 21, 1896. The principles which it discusses and lays down apply to medical experts, with full force, although this action was brought by a civil engineer. He had been engaged by the defendant to go into court at a future day and testify for him as an expert in regard to a matter which he had examined as such. This engagement was made about six weeks before the trial. He talked over the matter, and went into court and testified, and during the progress of the trial advised the defendant's attorney in regard to the questions to be asked of himself and of the other witnesses, though he was not asked any questions which called for his opinion as an expert. To further complicate matters, he was, at some time after the agreement was made, regularly summoned by the defendant as a witness, and was paid the statutory fees, and made no objection thereto, and made no claim for extra compensation. Was he entitled to recover any extra compensation as an expert? The defendant contended that he was not, and that if there was an express promise to pay him extra, it was without consideration, and that the witness did no more than he was legally required to do under his subpena. That a court would be without power to require the attendance of a professional or skilled witness, upon a summons duly served, and with payment of the statutory fees, although he was unacquainted with the facts, and could testify only to opinions, the court declares it would be slow to admit; but such power would hardly be exercised unless, in the opinion of the court, it was necessary for the purposes of justice; and the one summoned would perform all that the court could require of him if he should hold himself in readiness to be called upon to testify to such opinions as he might have when his turn should come. In this case, however, the court holds that the evidence showed a sufficient consideration to support a promise to pay a reasonable compensation, in addition to the statutory fees, and that the jury was warranted in finding a promise to that effect, or a mutual understanding that the expert was to be so paid. If such promise was made, or such understanding existed, it further holds that the expert's right to recover would not be taken away or lost by his omission to claim or demand extra compensation, or to notify the defendant that he should make such claim, or by his acceptance of the statutory fee without objection, or by the omission of the defendant at the trial to put any question to him as an expert witness, and the consequent omission on his part to testify as an expert. What would have been his right without such promise or understanding, the court studiously avoids stating except as above, though at the same time shows the trend of authorities would be against allowing any extra compensation.

Hospitals.

ERIE COUNTY HOSPITAL, BUFFALO, N. Y.—The following appointments have been made on the staff: Consulting genito-urinary surgeon, D. W. Harrington; attending physician, B. H. Daggett; consulting surgeons, M. Hartwig, H. C. Frost; consulting physician, A. T. Bull; attending obstetrician, L. J. Hanley; attending gynecologist, H. D. Ingraham; attending physicians, George W. Lewis, C. S. Jewett; eye and ear, Arthur S. Bennett; children's physicians, Maud J. Frye, John D. Flagg.

HOUSE OF MERCY HOSPITAL DEDICATED.—The formal dedication of the new House of Mercy Hospital at Springfield Mass., took place June 23, in the chapel.

THE PUBLIC SERVICES.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from June 27 to July 3, 1896.

Col. Charles T. Alexander, Asst. Surgeon-General, is granted leave of absence for two months, to take effect on or about July 8, 1896, or as soon thereafter as practicable.

Capt. William B. Davis, Asst. Surgeon, will in addition to his present duties, take charge of the medical supply depot in New York city, during the absence on leave of Col. Charles T. Alexander, Asst. Surgeon-General.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending July 4, 1896.

Surgeon L. G. Heneberger, detached from the marine rendezvous, New York, and ordered to the hospital, Widow's Island.
P. A. Surgeon E. S. Bogert, ordered to the New York navy yard, July 2.
P. A. Surgeon T. C. Craig, detached from the New York navy yard, July 2, and ordered to the marine rend zvous, New York.
P. A. Surgeon W. F. Arnold, detached from special duty in China and Japan and ordered to return home.
Asst. Surgeon H. F. Parrish, ordered to the naval laboratory, New York City.

Change of Address.

Cummings, W. M., from Las Animas to Trinidad, Colo.
Davis, Jr., N. S., from 326 Superior St. to 291 Huron St., Chicago, Ill.
Getzlaff, B., from Wapakoneta, Ohio, to Attapulgus, Ga.
Houston, I. M., from 428 Ellis St. to 707 Sutler St., San Francisco, Cal.
Harris, John J., from 1505 Tower Grove Ave. to 5252 Shaw Ave., St. Louis, Mo.
Lewellyn, P. W., from Clarinda, Iowa, to Ragosa Springs, Colo.
Patch, Wm., from Cooksville, to Sibley, Ill.
Rees, H., from Chicago, Ill. to Scandinavia, Wis.
Southern California Practitioner, from 107 N. Spring St. to Suite 243-246 Bradbury B'ld'g, San Francisco, Cal.

LETTERS RECEIVED.

Atkinson, W. B., Philadelphia, Pa.; Allport, Frank, Minneapolis, Minn.; Ashby, T. A., Baltimore, Md.; Ashmead, A. S., (2) New York, N. Y.
Bartlett, J. C., Chicago, Ill.; Boehringer, C. F. & Soehne, New York, N. Y.; Baker, John C., Co., Philadelphia, Pa.; Batman, W. F., Lebanon, Ind.; Burr, C. B., Flint, Mich.; Bullington, T. A., Louisville, Ky.; Bluhm, Geo. I., Chicago, Ill.
Cullen, G. I., Cincinnati, Ohio; Christopher, H., St. Joseph, Mo.; Cleveland, E. F., Dundee, Ill.; Columbus Phaeton Co., Columbus, Ohio; Chesman, Nelson & Co., St. Louis, Mo.; Coffman, G. L., Thayer, Kan.; Coppedge, W. E., Oak Hill, Mo.; Cerna, David, Galveston, Texas.
Doliber-Goodale & Co., Boston, Mass.; Delavan, D. Bryson, New York, N. Y.; Dick, J. K., Chicago, Ill.
Eagleson, J. B., Seattle, Wash.; Elliott, A. R., New York, N. Y.
Fritzinger, R. J., Philadelphia, Pa.; Farbert, McCassy, Dayton, Ohio.
Gates, Geo. W., St. Louis, Mo.; Gibson, Maris, Wilkesbarre, Pa.
Harrison, W. H., Harrisburg, Pa.; Horner, Frederick, Marshall, Va.; Hummel, A. L., Advertising Agency, (4) New York, N. Y.; Hardesty, T. O., Kampsville, Ill.; Hollister, J. H., Chicago, Ill.; Heath, F. C., Indianapolis, Ind.; Hummel, C. C., Mechanicsburg, Pa.; Hamblin, J. M., Westboro, Mo.; Högler, Elmer E., Springfield, Ill.; Harris, T. C., Raleigh, N. C.; Haldenstein, I., New York, N. Y.; Hogan, H. H., Reno, Nevada.
Ingals, E Fletcher, Chicago, Ill.
Jones, H. P., New Orleans, La.; Johnson, H. L. E., (2) Washington, D. C.
Kleinschmidt, C. H. A., Washington, D. C.; Kleene, F., Chicago, Ill.
Lusk, Z. J., Warsaw, N. Y.; Luce, C. R., Washington, D. C.; Leffingwell, Wm. E., (2) Watkins, N. Y.; Larew, John T., St. Louis, Mo.
Mumaw, H. A., Elkhart, Ind.; Malcolm, John W., Courtney, I. T.; Morgan, E. E., Fort Wayne, Ind.; Mulford, H. K., & Co., (2) Philadelphia, Pa.; Marks, A. A., New York, N. Y.; McKee, E. S., Cincinnati, Ohio; McMurtry, L. S., Louisville, Ky.
Nixon, J. W., Soldier, Kan.; Newton, Richard C., Montclair, N. J.
Ott, Isaac, Philadelphia, Pa.
Page, L. F., Indianapolis, Ind.; Pollette, E. E., Westerly, R. I.
Ryman, H. M., New York, N. Y.; Ross, A. A., Hochheim, Texas; Reed, R. Harvey, Columbus, Ohio.
Sandow, F. C., Lynchburg, Texas; Smart, Chas., U. S. A., (2) Washington, D. C.; Scott, W. A., Swanton, Ohio; Sargent, Andrew, Hopkinsville, Ky.; Smith, B. M., Davis, W. Va.; Sellors, W., Wausaukee, Wis.; Simms, S. W., Danville, Ill.; Smith, F. S., Nevada, Iowa; Smith, E. B., Detroit, Mich.; Scheiffelin & Co., New York, N. Y.; Sharp, W. H., Parkersburg, W. Va.; Schering & Glatz, New York, N. Y.
Uran, B. F., Kankakee, Ill.
Wilkinson, A. D., Lincoln, Neb.; Wenzel, H. P., Milwaukee, Wis.; Wyckoff, R. M., Brooklyn, N. Y.; Weaver, H. S., Philadelphia, Pa.; Woods, T. J., Batesville, Ark.; Willard, Lee M., Merrill, Wis.